The Charles A. Dana Center at the University of Texas at Austin



2013

What Students Need to Know

Mathematics Concept Inventories for Community College Workforce Education Programs

A resource developed by the Charles A. Dana Center at the University of Texas at Austin and Ivy Tech Community College of Indiana

What Students Need to Know:

Mathematics Concept Inventories for Community College Workforce Education Programs

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2013

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About the Charles A. Dana Center at The University of Texas at Austin

The Dana Center strengthens our nation's education systems to provide a reliable path to upward mobility for all students. Our work focuses on mathematics and science education, with an emphasis on strategies for improving student engagement, motivation, and persistence. We are dedicated to nurturing students' intellectual passions and ensuring that every student leaves school prepared for success in postsecondary education and the contemporary workplace—and for active participation in our modern democracy.

We advocate for high academic standards, and we collaborate with local partners to build the capacity of education systems to ensure that all students can master the content described in these standards. We help our partners adapt promising research to meet their local needs.

We develop innovative curricula, tools, protocols, instructional supports, and professional development systems that we implement through multiple channels, from the highly local and personal to the regional and national. We provide long-term technical assistance to school and district leadership teams, advise community colleges and states, and collaborate with national partners on work such as our Urban District Leadership Networks, Academic Youth Development project, and Advanced Mathematical Decision Making course.

We have significant experience and expertise in the following:

- Standards development and implementation, systemic reform, and district capacity building
- K-14 course design and development, learning networks, and programs for bridging critical transitions
- Education leadership, instructional coaching, and teaching
- Research, content development, and publishing

The Center was founded in 1991 at The University of Texas at Austin. Our staff of more than 60 researchers and education professionals has worked with dozens of school systems in nearly 20 states and with most of Texas's more than 1,000 school districts. We are committed to ensuring that the accident of where a student attends school does not limit the academic opportunities he or she can pursue. For more information about our programs and resources, see our homepage at **www.utdanacenter.org**.

The Charles A. Dana Center at The University of Texas at Austin and Ivy Tech Community College of Indiana

About Ivy Tech Community College of Indiana

Ivy Tech Community College is the state's largest public postsecondary institution and the nation's largest singly accredited statewide community college system, serving nearly 200,000 students annually. Ivy Tech has campuses throughout Indiana. It serves as the state's engine of workforce development, offering affordable degree programs and training that are aligned with the needs of its community, along with courses and programs that transfer to other colleges and universities in Indiana. It is accredited by the Higher Learning Commission and a member of the North Central Association. For more information on Ivy Tech, see **www.ivytech.edu**.

About the development of this resource

In June 2012, the Mathematics Steering Committee at Ivy Tech Community College of Indiana—in an effort to develop preparatory mathematics courses for the college's programs that offer certificates, technical certificates, and/or associate's degrees in a wide range of workforce education disciplines—embarked on an ambitious data-collection effort to determine the prerequisite mathematics concepts that students need to be successful in each of these programs.

Leaders in the mathematics education community at Ivy Tech jointly developed and conducted surveys of program chairs and faculty within the Ivy Tech system to determine how various mathematical concepts (from a comprehensive list developed by the College) are relevant to various programs of study.

The Dana Center, recognizing that such an effort was a first for community college mathematics—and that as such, the survey results could be of great benefit to the community college mathematics education community—agreed to work with Ivy Tech to aggregate and analyze these data sets to create comprehensive mathematics concepts inventories that could be used by mathematics faculty at community colleges across the country. This joint effort resulted in this first edition of this resource.

Acknowledgments

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Alphabetical list of programs

Below are listed 34 Ivy Tech Community College of Indiana programs that offer certificates, technical certificates, and/or associate's degrees in a wide range of workforce education disciplines. This publication includes a two-page summary for each of these programs of study; each summary details which mathematics concepts (from a comprehensive list developed by Ivy Tech) are highly relevant, relevant, minimally relevant, or not relevant for that program of study; the determination of relevance was derived from survey responses from faculty and program chairs from campuses across the Ivy Tech system. These were then vetted at curriculum review meetings by the full faculty from each respective program.

This resource is intended to support a larger conversation in the field about what mathematics concepts a student should know to be certified in various programs.

Accounting	1
Automotive Technology	3
Aviation Technology	5
Building Construction Management	7
Business Administration	9
Chemical Technology	11
Computer Information Systems	13
Computer Information Technology	15
Construction Technology	17
Criminal Justice	19
Dental Hygiene	21
Design Technology	23
Early Childhood Education	25
Education	27
Electronics and Computer Technology	
Energy Technology	
Environmental Design	
Health Care Support	

Health Information Management/	
Technology	7
Hospitality Administration	9
Human Services	1
Industrial Technology 4	3
Information Security 4	5
Library Technical Assistant 4	7
Machine Tool Technology 4	9
Medical Assisting	1
Medical Laboratory Technician 5	3
Office Administration 5	5
Paralegal Studies 5	7
Paramedic Science 5	9
Respiratory Care	1
Surgical Technology 6	3
Therapeutic Massage	5
Visual Communications 6	7

The Charles A. Dana Center at The University of Texas at Austin and Ivy Tech Community College of Indiana

What Students Need to Know: Mathematics Concept Inventories for Community College Workforce Education Programs ...

... Is a resource for community college mathematics leaders and faculty who are working to reform mathematics content in workforce education programs.

This resource, developed in partnership with Ivy Tech Community College of Indiana, and made possible by a grant from The Carnegie Corporation of New York, features inventories of required mathematics concepts for a broad range of workforce education programs at the certificate and associate's degree levels.

We would be remiss if we did not note that the new *What Does It Really Mean to be College and Work Ready* report¹ from the National Center on Education and the Economy covers much of the same ground—for both mathematics and English literacy, but from a higher vantage point and with a broader approach. Specifically,² NCEE analyzed evidence "to determine reading, writing, and mathematical literacy knowledge and skills needed to succeed in … nine highly popular and diverse program areas":

Accounting Automotive Technology Biotech / Electrical Technology Business Computer Programming Criminal Justice Early Childhood Education Information Technology Nursing

This resource differs particularly in that it focuses on certificates, technical certificates, and/or associate's degrees in 34 of workforce education disciplines. NCEE's report focuses only on degree programs and course sequences that enable students to transfer to a 4-year institution. To access this excellent report, see www.ncee.org/college-and-work-ready.

¹ National Center on Education and the Economy. (2013, May). *What Does It Really Mean to be College and Work Ready?: The Mathematics Required of First Year Community College Students*. Washington, DC: Author. Retrieved July 1, 2013, via www.ncee.org/college-and-work-ready.

² Ibid, page 7.

ACCOUNTING

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Calculate measures of central tendency
	Calculate slope
	Collect and analyze data
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
ļ	Graph linear equations
Ľ	Identify perfect squares and calculate square roots using a calculator
\tilde{c}	Perform basic operations with complex numbers
$\overline{\mathbf{v}}$	Perform the set operations of union, intersection, and complementation
	Read and interpret tables and graphs
Ψ,	Simplify algebraic expressions (distributive property, combine like terms)
	Solve absolute value equations
\geq	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
D.	Solve linear equations
	Solve linear inequalities
	Solve percent problems
	Solve proportion problems
	Solve quadratic equations
	Solve systems of equations with three variables
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Write linear equations from tables, graphs, and applications
ally ant	Graph linear inequalities
inm Sec	Simplify radicals
E P	Solve absolute value inequalities
H	Add, subtract, multiply, and divide polynomial expressions
ฐ	Apply properties of intersecting lines, transversals, and angles
e S	Apply the properties of complex numbers in rectangular and polar forms
ē	Apply the properties of logarithms to solve exponential and logarithmic equations
ţ	Apply the Hythagorean theorem
e	Apply the rules of hypothesis testing for one and two sample populations
_	Approximate dinomial distribution using normal distribution

ACCOUNTING

Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Compute probabilities Convert between degree measure and radian measure Determine confidence intervals Determine correlation coefficients and predict using linear correlation Factor binomials, trinomials and four-term polynomials Find the angles of regular polygons Find trigonometric function values of any angle expressed in degrees or radians Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph polynomial functions Graph guadratic functions Graph trigonometric functions not relevant Identify characteristics and properties of circles, triangles, and quadrilaterals Operate within and between the U.S. customary and metric system Perform common constructions using a straightedge and compass Perform operations on matrices Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve obligue triangles using the laws of sine and cosine Solve polynomial equations Solve radical equations Solve rational equations Solve right triangles Solve systems of linear equations using various matrix methods Solve trigonometric equations Use and apply properties of vectors Use chi-square testing Use permutations, combinations, and other counting techniques Use proportion as applied to similar figures Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Use Venn diagrams to illustrate properties of sets

Utilize trigonometric identities

AUTOMOTIVE TECHNOLOGY

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Calculate perimeters, areas, and volumes of basic geometric figures
	Collect and analyze data
	Evaluate expressions and formulas
Ę	Find the angles of regular polygons
لے ا	Identify characteristics and properties of circles, triangles, and quadrilaterals
(V	Operate within and between the U.S. customary and metric system
$\overline{\mathbf{v}}$	Read and interpret tables and graphs
	Solve an equation for a specified variable
Ō	Solve financial applications including simple and compound interest
	Solve percent problems
	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
	I lea proportion as applied to similar figures
	Use the order of operations (grouping symbols, synaponts)
	Add subtrast multiply and divide polynomial sympols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
Ę	Approximate binomial distribution using normal distribution
Ľ	Calculate measures of central tendency
(V)	Calculate measures of dispersion
$\overline{\mathbf{v}}$	Calculate slope
	Calculate z-scores and percentile ranks
Ū.	Compute probabilities
<u> </u>	Convert between degree measure and radian measure
Ţ	Determine confidence intervals
Q	Determine correlation coefficients and predict using linear correlation
	Determine evaluate and graph functions
	Easter binomials, trinomials and four, term polynomials
	Factor binornials, the ornalis and four-term polynornials
	Find trigonometric function values of any angle expressed in degree or radian
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions

AUTOMOTIVE TECHNOLOGY

not relevant	Graph quadratic functions Graph trigonometric functions Identify perfect squares and calculate square roots using a calculator Perform basic operations with complex numbers Perform common constructions using a straightedge and compass Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify radicals Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve absolute value inequalities Solve linear equations Solve oblique triangles using the laws of sine and cosine Solve polynomial equations Solve radical equations Solve radical equations Solve radical equations Solve radical equations Solve rational equations Solve radical equations Solve right triangles Solve systems of linear equations using various matrix methods Solve systems of linear equations using various matrix methods Solve trigonometric equations Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use permutations, combinations, and other counting techniques Use the binomial and normal distributions to determine probabilities
	Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing
	Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents
	Use tree diagrams Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities Write linear equations from tables, graphs, and applications

AVIATION TECHNOLOGY

	Add, subtract, multiply, divide fractions
Jt	Add, subtract, multiply, divide whole numbers
ar	Add, subtract, multiply, divide with negative numbers
\sim	Evaluate expressions and formulas
له ا	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Read and interpret tables and graphs
L	Simplify algebraic expressions (distributive property, combine like terms)
	Solve an equation for a specified variable
	Solve percent problems
Ļ	Solve proportion problems
<u>.</u> <u>.</u>	Solve right triangles
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Apply properties of intersecting lines, transversals, and angles
	Apply the Pythagorean theorem
	Calculate perimeters, areas, and volumes of basic geometric figures
	Collect and analyze data
	Convert between degree measure and radian measure
	Find the angles of regular polygons
Jt	Find trigonometric function values of any angle expressed in degrees or radians
	Identify perfect squares and calculate square roots using a calculator
2	Derfare exercises exercises e straightedes and exercises
ω.	Simplify rational expressions including aspealey fractions
	Simplify rational expressions, including complex fractions
Ψ	Translate verbal expressions into algebraic symbols and vice versa
	I inderetand the concern of clone as a rate of change
	U les and apply properties of vectors
	Use properties as applied to similar figures
	Use tree diagrams
	Use trigenemetric tables and calculators to find sing, social, and tangent of an angle
	Land use the inverse functions to find an angle
	Minite linear equations from tables, graphs, and applications
	whice in least equations from tables, graphs, and applications

AVIATION TECHNOLOGY

Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of complex numbers in rectangular and polar forms Apply the properties of logarithms to solve exponential and logarithmic equations Apply the rules of hypothesis testing for one and two sample populations Approximate binomial distributions using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate z-scores and percentile ranks Compute probabilities Determine confidence intervals Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations not relevant Graph linear inequalities Graph polynomial functions Graph guadratic functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve financial applications including simple and compound interest Solve linear equations Solve linear inequalities Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Solve trigonometric equations Use chi-square testing Use permutations, combinations, and other counting techniques Use the binomial and normal distribution to determine probabilities Use the properties of rational exponents Use Venn diagrams to illustrate properties of sets Utilize trigonometric identities

BUILDING CONSTRUCTION MANAGEMENT

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Collect and analyze data
	Compute probabilities
	Convert between degree measure and radian measure
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
Ę	Operate within and between the U.S. customary and metric system
Я	Perform basic operations with complex numbers
Ň	Perform common constructions using a straightedge and compass
á	Read and interpret tables and graphs
	Simplify radicals
Ľ	Simplify rational expressions including complex fractions
	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Solve oblique triangles using the laws of sine and cosine
	Solve percent problems
	Solve proportion problems
	Solve radical equations
	Solve rational equations
	Solve right triangles
	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice-versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use proportion as applied to similar figures
	Use the order of operations (grouping symbols, exponents)
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine and tangent of an angle
	and use the inverse functions to find an angle
	Utilize trigonometric identities

BUILDING CONSTRUCTION MANAGEMENT

	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate z-scores and percentile ranks
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
	Factor binomials, trinomials and four-term polynomials
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
Ļ	Graph linear inequalities
\Box	Graph polynomial functions
В	Graph quadratic functions
>	Graph trigonometric functions
\Box	Perform operations on matrices
Ð	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
Ļ	Solve 2 x 2 systems of equations graphically and by substitution and elimination
Q	Solve absolute value equations
	Solve absolute value inequalities
	Solve linear equations
	Solve linear inequalities
	Solve polynomial equations
	Solve quadratic equations
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use scientific notation
	Use the binomial and normal distribution to determine probabilities
	Use tree diagrams
	Use Venn diagrams to illustrate properties of sets
	Write linear equations from tables, graphs, and applications

BUSINESS ADMINISTRATION

	Add, subtract, multiply, divide fractions
÷	Add, subtract, multiply, divide whole numbers
Ç	Add, subtract, multiply, divide with negative numbers
Ŋ	Calculate measures of central tendency
	Calculate measures of dispersion
<u>–</u>	Calculate perimeters, areas, and volumes of basic geometric figures
Q	
	Collect and analyze data
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Read and interpret tables and graphs
Q	Solve financial applications including simple and compound interest
<u> </u>	Solve percent problems
	Solve proportion problems
	Use permutations, combinations, and other counting techniques
	Apply the rules of hypothesis testing for one and two sample populations
Ţ	Evaluate expressions and formulas
	Graph linear equations
2	Operate within and between the U.S. customary and metric system
$\overline{\mathbf{v}}$	Simplify algebraic expressions (distributive property, combine like terms)
<u>H</u>	Solve an equation for a specified variable
Ψ,	Understand the concept of slope as a rate of change
-	Use ecientific netation
	Use the order of operations (grouping symbols, exponents)
	Apply properties of intersecting lines, trapsversals, and apples
ىد	Apply the Pythagoroan theorem
Ē	Calculate z scores and percentile ranks
ğ	Determine evaluate and graph functions
N N	Find the angles of regular polygons
₩.	Grand linear inequalities
Ľ	Graph quadratic functions
	Identify perfect squares and calculate square roots using a calculator
	Perform common constructions using a straightedge and compass
20	Perform the set operations of union intersection and complementation
⊒ .	Translate verbal expressions into algebraic symbols and vice versa
⊇.	I lse the binomial and normal distributions to determine probabilities
3	I lse tree diagrams
~	Use Venn diagrams to illustrate properties of sets

BUSINESS ADMINISTRATION

Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of complex numbers in rectangular and polar forms Apply the properties of logarithms to solve exponential and logarithmic equations Approximate binomial distribution using normal distribution Convert between degree measure and radian measure Determine confidence intervals Determine correlation coefficients and predict using linear correlation Factor binomials, trinomials and four-term polynomials Find trigonometric function values of any angle expressed in degrees or radians Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph polynomial functions Graph trigonometric functions Perform basic operations with complex numbers not relevant Perform operations on matrices Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve linear equations Solve linear inequalities Solve obligue triangles using the laws of sine and cosine Solve polynomial equations Solve guadratic equations Solve radical equations Solve rational equations Solve right triangles Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Solve trigonometric equations Use and apply properties of vectors Use chi-square testing Use the properties of rational exponents Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Utilize trigonometric identities Write linear equations from tables, graphs, and applications

CHEMICAL TECHNOLOGY

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Calculate measures of central tendency
	Calculate measures of dispersion
	Collect and analyze data
	Determine confidence intervals
Ę	Determine correlation coefficients and predict using linear correlation
Ъ	Evaluate expressions and formulas
(V	Identify perfect squares and calculate square roots using a calculator
	Operate within and between the U.S. customary and metric system
$\underline{\Theta}$	Read and interpret tables and graphs
Ð	Solve absolute value equations
Ľ	Solve absolute value equations
	Solve an equation for a specified variable
	Solve linear equations
	Solve percent problems
	Solve proportion problems
	Solve rational equations
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	I lise scientific notation
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in restangular and polar formed
	A properties of complex numbers in rectangular and polar forms
ļ	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
ש	Approximate binomial distribution using normal distribution
\geq	Calculate perimeters, areas, and volumes of basic geometric figures
\Box	Calculate z-scores and percentile ranks
	Compute probabilities
Ľ	Convert between degree measure and radian measure
Ļ	Determine evaluate and graph functions
Ö	Eactor binomials, trinomials and four-term polynomials
3	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations

CHEMICAL TECHNOLOGY

	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value inequalities
	Solve financial applications including simple and compound interest
g	Solve linear inequalities
2	Solve oblique triangles using the laws of sine and cosine
$\overline{\mathbf{O}}$	Solve polynomial equations
U	Solve quadratic equations
	Solve radical equations
Ľ	Solve right triangles
$\mathbf{\Sigma}$	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

COMPUTER INFORMATION SYSTEMS

relevant	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Collect and analyze data
	Compute probabilities
	Evaluate expressions and formulas
	Identify characteristics and properties of circles, triangles, and guadrilaterals
	Perform operations on matrices
	Read and interpret tables and graphs
>	Solve an equation for a specified variable
Ť	Solve financial applications including simple and compound interest
4	Solve nercent problems
·≚́	Translate verbal expressions into algebraic symbols and vice versa
<u> </u>	I inderstand the concept of clone as a rate of change
	U les proportion as applied to similar figures
	Use the order of operations (grouping symbols, synaponets)
	Add subtract multiply divide fractions
	Apply properties of integer exponents
	Apply properties of integer exponents
	Calculate measures of central tendency
	Calculate z-scores and percentile ranks
	Determine, evaluate, and graph functions
	Graph linear equations
	Graph linear inequalities
	Operate within and between the U.S. customary and metric system
	Perform basic operations with complex numbers
Ţ	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
(V)	Simplify rational expressions, including complex fractions
$\overline{\mathbf{v}}$	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
Ū.	Solve absolute value inequalities
	Solve linear equations
	Solve proportion problems
	Solve quadratic equations
	Solve rational equations
	Solve systems of equations with three variables
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations combinations and other counting techniques
	Use scientific notation
	I le tree diagrams

COMPUTER INFORMATION SYSTEMS

	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of dispersion
	Convert between degree measure and radian measure
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
<u> </u>	Find trigonometric function values of any angle expressed in degrees or radians
\Box	Graph circles, parabolas, ellipses, and hyperbolas
Ŋ	Graph exponential and logarithmic functions
\geq	Graph polynomial functions
\Box	Graph quadratic functions
Ð	Graph trigonometric functions
	Identify perfect squares and calculate square roots using a calculator
エ	Perform common constructions using a straightedge and compass
2	Simplify radicals
	Solve linear inequalities
	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
	Solve radical equations
	Solve right triangles
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

COMPUTER INFORMATION TECHNOLOGY

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the Pythagorean theorem
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Collect and analyze data
	Compute probabilities
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Find the angles of regular polygons
	Graph linear equations
	Graph linear inequalities
	Graph quadratic functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
Ę	Operate within and between the U.S. customary and metric system
Ъ	Perform operations on matrices
2	Read and interpret tables and graphs
$\overline{\mathbf{w}}$	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
ų	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Solve linear equations
	Solve linear inequalities
	Solve percent problems
	Solve polynomial equations
	Solve proportion problems
	Solve quadratic equations
	Solve radical equations
	Solve rational equations
	Solve right triangles
	Solve systems of linear equations using various matrix methods
	Translate verbal expressions into algebraic symbols and vice versa
	I Inderstand the concent of slone as a rate of change
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use proportion as applied to similar hydres

COMPUTER INFORMATION TECHNOLOGY

ant	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Use the properties of rational exponents
\sim	Use tree diagrams
á)	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
Ľ	Use Venn diagrams to illustrate properties of sets
	Write linear equations from tables, graphs, and applications
	Add, subtract, multiply, and divide polynomial expressions
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate z-scores and percentile ranks
	Convert between degree measure and radian measure
Ļ	Determine confidence intervals
\Box	Determine correlation coefficients and predict using linear correlation
b	Factor binomials, trinomials and four-term polynomials
>	Find trigonometric function values of any angle expressed in degrees or radians
Ð	Graph circles, parabolas, ellipses, and hyperbolas
(۵	Graph exponential and logarithmic functions
Ľ	Graph polynomial functions
Ц Ц	Graph trigonometric functions
0	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform the set operations of union, intersection, and complementation
	Simplify rational expressions, including complex fractions
	Solve oblique triangles using the laws of sine and cosine
	Solve systems of equations with three variables
	Solve trigonometric equations
	Use and apply properties of vectors
	Use chi-square testing
	Use the binomial and normal distributions to determine probabilities
	Utilize triaonometric identities

CONSTRUCTION TECHNOLOGY

	Add. subtract. multiply. divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of intersecting lines, transversals, and angles
	Apply the Pythagorean theorem
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Convert between degree measure and radian measure
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Identify characteristics and properties of circles triangles and quadrilaterals
ىب	Identify perfect squares and calculate square roots using a calculator
Σ	Operate within and between the U.S. customary and metric system
Я	Perform common constructions using a straightedge and compass
>	Read and interpret tables and graphs
<u>0</u>	Solve an equation for a specified variable
Ð	Solve obligue triangles using the laws of sine and cosine
	Solve percent problems
	Solve proportion problems
	Solve right triangles
	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use proportion as applied to similar figures
	Use the order of operations (grouping symbols, exponents)
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Utilize trigonometric identities
ц	Add, subtract, multiply, and divide polynomial expressions
an	Apply properties of integer exponents
N N	Apply the properties of complex numbers in rectangular and polar forms
e e	Apply the properties of logarithms to solve exponential and logarithmic equations
t L	Apply the rules of hypothesis testing for one and two sample populations
<u>c</u>	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency

CONSTRUCTION TECHNOLOGY

Calculate measures of dispersion Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph circles, parabolas, ellipses, and hyperbolas Graph polynomial functions Graph polynomial functions Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify adjebraic expressions (distributive property, combine like terms) Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve financial applications including simple and compound interest Solve financial applications including simple and compound interest Solve financial applications Solve equadratic equations Solve radical equations Solve radical equations Solve radical equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use the properties of rational exponents Use the dingarms to illustrate properties of sets Write linear equations from tables, graphs, and applications		
Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Evaluate expressions and form-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph circles, parabolas, ellipses, and hyperbolas Graph inear equations Graph linear equations Graph linear equations Graph polynomial functions Graph polynomial functions Graph quadratic functions Graph polynomial functions Perform basic operations with complex numbers Perform operations on matrices Perform operations on matrices Perform operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve linear inequalities Solve linear equations Solve absolute value equations Solve absolute value inequalities Solve ratical applications including simple and compound interest Solve linear equations Solve absolute value inequalities Solve ratical equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the optimal and normal distributions to determine probabilities Use the properties of rational exponents Use the properties of rational exponents Use the optimal and normal distributions to determine probabilities Use the optimal and normal distributions to determine probabilities Use the optimal and normal distributions to determine probabilities Use the properties of rational exponents Use the normal and normal distributions to determine probabilities Use the optimal and normal distributions to determine probabilities Use the optimal an		Calculate measures of dispersion
Collect and analyze data Compute probabilities Determine confidence intervals Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Perform basic operations with complex numbers Perform the set operations of union, intersection, and complementation Simplify algebraic expressions, (distributive property, combine like terms) Simplify raticals Simplify raticals Solve 2 x 2 systems of equations Solve absolute value equations Solve absolute value equations Solve absolute value equations Solve absolute value inequalities Solve financial applications including simple and compound interest Solve absolute value equations Solve ational equations Solve rational equations Solve rational equations Solve rational equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the properties of rational exponents Use the diagrams Use Venn diagrams to illustrate properties of sets Write linear equations form tables, graphs, and applications		Calculate z-scores and percentile ranks
Compute probabilities Determine confidence intervals Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph inear equations Graph polynomial functions Graph polynomial functions Graph quadratic functions Graph operations on matrices Perform basic operations with complex numbers Perform the set operations of union, intersection, and complementation Simplify raticals Simplify raticals Simplify raticals Solve absolute value expressions, including complex fractions Solve absolute value equations Solve linear inequalities Solve linear inequalities Solve linear inequalities Solve linear inequalities Solve linear equations Solve ational equations Solve ratical applications including simple and compound interest Solve linear inequalities Solve ratical equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations form tables, graphs, and applications		Collect and analyze data
Determine confidence intervals Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph polynomial functions Graph nequalities Graph oplynomial functions Graph trigonometric functions Perform basic operations of union, intersection, and complementation Simplify algebraic expressions, including complex fractions Solve 2 x 2 systems of equations Solve absolute value equations Solve absolute value equations Solve inear equations Solve pulpromial equations Solve rational expensions, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the properties of sets Write linear equations Solve Prendiagrams Use Venn diagrams Use Venn diagram		Compute probabilities
Determine correlation coefficients and predict using linear correlation Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Graph polynomial functions Perform basic operations with complex numbers Perform basic operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify raticals Simplify raticals Simplify raticals Solve 2 × 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve linear equations Solve linear equations Solve inear equations Solve inear equations Solve ratical equations Solve ratical equations Solve ratical equations Solve systems of equations with three variables Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the properties of rational exponents Use the properties of rational exponents Use the diagrams Use Venn diagrams to illustrate properties of sets Write linear equations form tables, graphs, and applications		Determine confidence intervals
Determine, evaluate, and graph functions Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph linear equations Graph polynomial functions Graph quadratic functions Graph polynomial functions Graph polynomial functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve inear inequalities Solve inear inequalities Solve quadratic equations Solve radical equations Solve radical equations Solve radical equations Solve systems of equations using various matrix methods Use chi-square testing Use chi-square testing Use scientific notation Use the binomial and normal distributions to determine probabilities </td <th></th> <td>Determine correlation coefficients and predict using linear correlation</td>		Determine correlation coefficients and predict using linear correlation
Evaluate expressions and formulas Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph polynomial functions Graph polynomial functions Graph trigonometric functions Perform operations on matrices Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve linear equations Solve linear inequalities Solve polynomial equations Solve adical equations Solve adical equations Solve actical equations Solve radical equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Determine, evaluate, and graph functions
Factor binomials, trinomials and four-term polynomials Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph linear inequalities Graph polynomial functions Graph quadratic functions Graph trigonometric functions Perform basic operations with complex numbers Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve linear equations Solve polynomial equations Solve polynomial equations Solve adatic equations Solve adatic equations Solve rational equations Solve adatic equations Solve adatic equations Solve adatic equations Solve adatic equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the equations from tables, graphs, and applications		Evaluate expressions and formulas
Graph circles, parabolas, ellipses, and hyperbolas Graph circles, parabolas, ellipses, and hyperbolas Graph linear equations Graph linear inequalities Graph polynomial functions Graph quadratic functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify radicals Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve innacial applications including simple and compound interest Solve linear equations Solve quadratic equations Solve quadratic equations Solve radical equations Solve radical equations Solve radical equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Factor binomials, trinomials and four-term polynomials
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Graph linear equations Graph linear inequalities Graph polynomial functions Graph polynomial functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve absolute value inequalities Solve financial applications including simple and compound interest Solve linear equations Solve quadratic equations Solve rational equations Solve rational equations Solve ratical equations Solve ratical equations Solve ratical equations Solve ratical equations Solve raystems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Graph exponential and logarithmic functions
Graph linear inequalities Graph polynomial functions Graph quadratic functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify radicals Simplify radicals Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equalities Solve financial applications including simple and compound interest Solve linear equations Solve polynomial equations Solve quadratic equations Solve quadratic equations Solve radical equations Solve radical equations Solve radical equations Solve rational equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Graph linear equations
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Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve absolute value inequalities Solve financial applications including simple and compound interest Solve linear equations Solve polynomial equations Solve quadratic equations Solve quadratic equations Solve radical equations Solve radical equations Solve radical equations Solve systems of equations with three variables Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications	В	Perform the set operations of union, intersection, and complementation
Simplify radicals Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve financial applications including simple and compound interest Solve linear equations Solve linear inequalities Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications	>	Simplify algebraic expressions (distributive property, combine like terms)
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Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve financial applications including simple and compound interest Solve linear equations Solve linear inequalities Solve polynomial equations Solve quadratic equations Solve quadratic equations Solve rational equations Solve rational equations Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications	Ð	Simplify rational expressions, including complex fractions
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 Solve linear equations Solve linear inequalities Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve rational equations Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications 		Solve financial applications including simple and compound interest
 Solve linear inequalities Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve rational equations with three variables Solve systems of equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications 		Solve linear equations
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 Solve quadratic equations Solve radical equations Solve rational equations Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications 		Solve polynomial equations
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Solve systems of linear equations using various matrix methods Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Solve systems of equations with three variables
Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Solve systems of linear equations using various matrix methods
Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use chi-square testing
Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use permutations, combinations, and other counting techniques
Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use scientific notation
Use the properties of rational exponents Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use the binomial and normal distributions to determine probabilities
Use tree diagrams Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use the properties of rational exponents
Use Venn diagrams to illustrate properties of sets Write linear equations from tables, graphs, and applications		Use tree diagrams
Write linear equations from tables, graphs, and applications		Use Venn diagrams to illustrate properties of sets
		Write linear equations from tables, graphs, and applications

CRIMINAL JUSTICE

<u> </u>	Add, subtract, multiply, divide whole numbers
an/	Collect and analyze data
	Perform the set operations of union, intersection, and complementation
	Read and interpret tables and graphs
rele	Simplify algebraic expressions (distributive property, combine like terms)
	Solve an equation for a specified variable
	Translate verbal expressions into algebraic symbols and vice versa
\leq	Use proportion as applied to similar figures
Ţ	Use scientific notation
<u>0</u>	Use the order of operations (grouping symbols, exponents)
	Use Venn diagrams to illustrate properties of sets
	Add, subtract, multiply, divide fractions
	Apply the rules of hypothesis testing for one and two sample populations
	Operate within and between the U.S. customary and metric system
Ţ	Perform common constructions using a straightedge and compass
	Solve absolute value equations
(V)	Solve percent problems
$\overline{\mathbf{v}}$	Solve proportion problems
	Solve quadratic equations
Ψ	Understand the concept of slope as a rate of change
<u> </u>	Use permutations, combinations, and other counting techniques
	Use tree diagrams
	Write linear equations from tables, graphs, and applications
	Add, subtract, multiply, divide with negative numbers
	Apply properties of intersecting lines, transversals, and angles
	Calculate measures of central tendency
Ъ	Calculate measures of dispersion
ສ	Calculate perimeters, areas, and volumes of basic geometric figures
\geq	Calculate slope
	Compute probabilities
Ľ	Determine, evaluate, and graph functions
nimally	Evaluate expressions and formulas
	Identify characteristics and properties of circles, triangles, and guadrilaterals
	Perform operations on matrices
	Simplify rational expressions, including complex fractions
.≓	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve financial applications including simple and compound interest
	Solve linear equations
	Solve polynomial equations

CRIMINAL JUSTICE

evant	Solve rational equations
	Solve right triangles
	Solve systems of equations with three variables
, re	Solve systems of linear equations using various matrix methods
ally	Use and apply properties of vectors
, min	Use the binomial and normal distributions to determine probabilities
ini	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Approximate binomial distribution using normal distribution
	Calculate z-scores and percentile ranks
	Convert between degree measure and radian measure
	Determine confidence intervais
	Determine correlation coefficients and predict using linear correlation
ىد	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
ต	Find trigonometric function values of any angle expressed in degrees or radians
>	Graph circles, parabolas, ellipses, and hyperbolas
Ð	Graph exponential and logarithmic functions
	Graph linear equations
Ľ	Graph linear inequalities
Ц Ц	Graph polynomial functions
Ο	Graph quadratic functions
	Graph trigonometric functions
	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
	Simplify radicals
	Solve absolute value inequalities
	Solve linear inequalities
	Solve oblique triangles using the laws of sine and cosine
	Solve radical equations
	Solve trigonometric equations
	Use chi-square testing
	Use the properties of rational exponents
	Utilize trigonometric identities

DENTAL HYGIENE

	Add, subtract, multiply, divide fractions
relevant	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Collect and analyze data
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Operate within and between the LLS, customary and metric system
	Read and interpret tables and graphs
	Solve financial applications including simple and compound interest
	Solve percent problems
	Solve properties
	Joive proportion problems
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
Ļ	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
Я	Calculate z-scores and percentile ranks
>	Compute probabilities
\Box	Convert between degree measure and radian measure
Ð	Determine confidence intervals
Ľ	Determine correlation coefficients and predict using linear correlation
ب	Factor binomials, trinomials and four-term polynomials
0	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles triangles and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	nucruiry perfect squares and calculate square roots using a calculator

DENTAL HYGIENE

	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve an equation for a specified variable
	Solve linear equations
	Solve linear inequalities
Ļ	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
g	Solve quadratic equations
\geq	Solve radical equations
\Box	Solve rational equations
Ð	Solve right triangles
	Solve systems of equations with three variables
K	Solve systems of linear equations using various matrix methods
Q	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice-versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

DESIGN TECHNOLOGY

	Add. subtract. multiply. divide fractions
	Add subtract multiply divide whole numbers
	Add subtract multiply divide with pegative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the Pythagorean theorem
	Calculate perimeters areas and volumes of basic geometric figures
	Calculate slope
	Evaluate expressions and formulas
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
Ę	Identify characteristics and properties of circles, triangles, and guadrilaterals
אר	Identify perfect squares and calculate square roots using a calculator
Š	Operate within and between the U.S. customary and metric system
۵	Perform common constructions using a straightedge and compass
<u> </u>	Read and interpret tables and graphs
Ľ	Simplify algebraic expressions (distributive property, combine like terms)
	Solve an equation for a specified variable
\leq	Solve linear equations
5	Solve oblique triangles using the laws of sine and cosine
.≌	Solve proportion problems
	Solve right triangles
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use proportion as applied to similar figures
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Graph linear equations
	Solve percent problems
Jt	Add, subtract, multiply, and divide polynomial expressions
้อเ	Convert between degree measure and radian measure
S0 S0	Solve quadratic equations
ele	Solve rational equations
Ľ	Utilize trigonometric identities

DESIGN TECHNOLOGY

Determine, evaluate, and graph functions
Factor binomials, trinomials and four-term polynomials
Graph circles, parabolas, ellipses, and hyperbolas
Graph trigonometric functions
Perform operations on matrices
Simplify radicals
Solve 2 x 2 systems of equations graphically and by substitution and elimination
Solve absolute value equations
Solve polynomial equations
Solve systems of equations with three variables
Solve trigonometric equations
Use the properties of rational exponents
Apply the properties of logarithms to solve exponential and logarithmic equations
Calculate measures of central tendency
Calculate measures of dispersion
Calculate Theasures of dispersion
Calculate 2-scores and percentile ranks
Conect and analyze data
Graph polyhornial functions
Derforme basic energations with complex numbers
Perform basic operations with complex numbers
Circulture set operations of union, intersection, and complementation
Simplify rational expressions including complex fractions
Solve absolute value inequalities
Solve linear inequalities
Solve radical equations
Solve systems of linear equations using various matrix methods
Use Venn diagrams to illustrate properties of sets
Write linear equations from tables, graphs, and applications
Apply the properties of complex numbers in rectangular and polar forms
Apply the rules of hypothesis testing for one and two sample populations
Approximate binomial distribution using normal distribution
Compute probabilities
Determine confidence intervals
Determine correlation coefficients and predict using linear correlation
Graph exponential and logarithmic functions
Graph linear inequalities
Solve financial applications including simple and compound interest
Use chi-square testing
Use permutations, combinations, and other counting techniques
Use the binomial and normal distributions to determine probabilities
Use tree diagrams

EARLY CHILDHOOD EDUCATION

ant	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Calculate measures of central tendency
	Calculate measures of dispersion
<u> </u>	Calculate perimeters, areas, and volumes of basic geometric figures
Ð	Collect and analyze data
Ľ	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Operate within and between the U.S. customary and metric system
Jhg	Read and interpret tables and graphs
	Solve percent problems
⊡	Solve proportion problems
	Use proportion as applied to similar figures
	Add, subtract, multiply, divide with negative numbers
ant	Calculate slope
	Compute probabilities
	Determine, evaluate, and graph functions
	Granh linear equations
	Graph linear inequalities
	Identify perfect squares and calculate square roots using a calculator
	Perform common constructions using a straightedge and compass
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
Θ	Solve an equation for a specified variable
Ð	Solve financial applications including simple and compound interest
<u> </u>	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use permutations, combinations, and other counting techniques
	Use scientific notation (grouping symbols, synaponets)
	Use tree diagrams
	Use Venn diagrams to illustrate properties of sets
	Write linear equations from tables, graphs, and applications
Ē	Add, subtract, multiply, and divide polynomial expressions
L L	Apply properties of integer exponents
\sim	Apply properties of intersecting lines, transversals, and angles
Ū.	Apply the Pythagorean theorem
e	Apply the rules of hypothesis testing for one and two sample populations
	Determine confidence intervals
	Factor binomials, trinomials and four-term polynomials
a	Find the angles of regular polygons
3	Graph circles, parabolas, ellipses, and hyperbolas
_ ·=	Graph quadratic functions
_i.	Solve linear equations
L	Solve linear inequalities

EARLY CHILDHOOD EDUCATION

Apply the properties of complex numbers in rectangular and polar forms Apply the properties of logarithms to solve exponential and logarithmic equations Approximate binomial distribution using normal distribution Convert between degree measure and radian measure Determine correlation coefficients and predict using linear correlation Find trigonometric function values of any angle expressed in degrees or radians Graph exponential and logarithmic functions Graph polynomial functions Graph trigonometric functions Perform basic operations with complex numbers Perform operations on matrices Simplify radicals not relevant Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities Solve obligue triangles using the laws of sine and cosine Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve right triangles Solve systems of equations with three variables Solve systems of linear equations using various matrix methods Solve trigonometric equations Use and apply properties of vectors Use chi-square testing Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Utilize trigonometric identities

EDUCATION

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the Pythagorean theorem
	Calculate measures of central tendency
	Calculate perimeters areas and volumes of basic geometric figures
Ļ	Calculate slope
	Collect and analyze data
g	Compute probabilities
>	Evaluate expressions and formulas
Ð	Evaluate expressions and formulas
()	Cranh linear equations
Ľ	Graph linear equations
	Graph linear inequalities
\leq	Identify characteristics and properties of circles, triangles, and quadrilaterals
5	Identify perfect squares and calculate square roots using a calculator
. <u>O</u>)	Operate within and between the U.S. customary and metric system
	Read and interpret tables and graphs
	Solve linear equations
	Solve percent problems
	Solve proportion problems
	Solve right triangles
	Understand the concept of slope as a rate of change
	Use proportion as applied to similar figures
	Use the order of operations (grouping symbols, exponents)
	Use Venn diagrams to illustrate properties of sets
	Add, subtract, multiply, and divide polynomial expressions
Ę	Apply the properties of complex numbers in rectangular and polar forms
Я	Apply the properties of logarithms to solve exponential and logarithmic equations
$\langle \rangle$	Apply the rules of hypothesis testing for one and two sample populations
ίΩ.	Approximate binomial distribution using normal distribution
	Calculate measures of dispersion
ų	Calculate z-scores and percentile ranks
	Determine confidence intervals
\geq	Determine correlation coefficients and predict using linear correlation
٣	Determine, evaluate, and graph functions
5	Factor binomials, trinomials and four-term polynomials
	Granh circles paraholas ellipses and hyperbolas
\Box	Graph exponential and logarithmic functions
∃:	Graph chyonomial functions
	Graph purghornal functions
	Graph quadratic functions
EDUCATION

	Graph trigonometric functions
vant	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
()	Simplify algebraic expressions (distributive property, combine like terms)
rele	Simplify rational expressions, including complex fractions
	Solve an equation for a specified variable
	Solve oblique triangles using the laws of sine and cosine
	Solve rational equations
<u>a</u>	Solve trigonometric equations
Č	Use and apply properties of vectors
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
<u> </u>	and use the inverse functions to find an angle
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications
	Convert between degree measure and radian measure
	Find trigonometric function values of any angle expressed in degrees or radians
	Perform the set operations of union, intersection, and complementation
	Simplify radicals
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
H	Solve absolute value inequalities
Я	Solve financial applications including simple and compound interest
\sim	Solve linear inequalities
á	Solve polynomial equations
	Solve quadratic equations
Ľ	Solve radical equations
	Solve systems of equations with three variables
Ō	Solve systems of linear equations using various matrix methods
č	Translate verbal expressions into algebraic symbols and vice versa
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams

ELECTRONICS & COMPUTER TECHNOLOGY

evant	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Calculate slope
	Collect and analyze data
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Graph exponential and logarithmic functions
	Graph linear equations
	Operate within and between the U.S. customary and metric system
Ľ	Read and interpret tables and graphs
~	Simplify algebraic expressions (distributive property, combine like terms)
\leq	Solve an equation for a specified variable
Ţ	Solve properties problems
. <u>⊇</u> ,	Translate verbal expressions into algebraic expension and vice verse
	I ransiale verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use the order of operations (grouping symbols, exponents)
	Write linear equations from tables, graphs, and applications
	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide fractions
	Apply properties of integer exponents
	Apply the properties of complex numbers in rectangular and polar forms
	Calculate perimeters, areas, and volumes of basic geometric figures
	Convert between degree measure and radian measure
Ļ	Factor binomials, trinomials and four-term polynomials
\Box	Find trigonometric function values of any angle expressed in degrees or radians
b	Graph trigonometric functions
\geq	Identify characteristics and properties of circles, triangles, and quadrilaterals
\mathbf{O}	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
Ľ	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve linear equations
	Solve linear inequalities
	Solve oblique triangles using the laws of sine and cosine

ELECTRONICS & COMPUTER TECHNOLOGY

ant		Solve percent problems
		Solve polynomial equations
		Solve quadratic equations
	<u>ר</u>	Solve radical equations
	=	Solve rational equations
	U	Solve right triangles
1		Solve systems of equations with three variables
rele		Solve systems of linear equations using various matrix methods
	D	Solve trigonometric equations
	_	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
		and use the inverse functions to find an angle
		Utilize trigonometric identities
		Apply the Pythagorean theorem
		Calculate measures of central tendency
-		Graph circles, parabolas, ellipses, and hyperbolas
	Лt	Graph linear inequalities
	al/	Graph polynomial functions
·⊟	Ð	Graph quadratic functions
.≓	Ð	Perform operations on matrices
	~	Solve absolute value inequalities
		Use proportion as applied to similar figures
		Use the properties of rational exponents
		Apply properties of intersecting lines, transversals, and angles
		Apply the rules of hypothesis testing for one and two sample populations
		Approximate binomial distribution using normal distribution
_	_	Calculate measures of dispersion
	2	Calculate z-scores and percentile ranks
	א	Compute probabilities
	\mathbf{S}	Determine confidence intervals
Í	$\tilde{\mathbf{b}}$	Determine correlation coefficients and predict using linear correlation
not rele		Find the angles of regular polygons
		Perform common constructions using a straightedge and compass
	_	Perform the set operations of union, intersection, and complementation
	รี	Solve financial applications including simple and compound interest
	2	Use chi-square testing
	-	Use permutations, combinations, and other counting techniques
		Use the binomial and normal distributions to determine probabilities
		Use tree diagrams
		Use Venn diagrams to illustrate properties of sets

ENERGY TECHNOLOGY

	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide tractions
	Add, subtract, multiply, divide whole numbers
	Aud, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Approximate binomial distribution using normal distribution
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Calculate z-scores and percentile ranks
	Collect and analyze data
	Compute probabilities
	Determine correlation coefficients and predict using linear correlation
Ľ	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Factor binomials, trinomials and four-term polynomials
$\overline{\mathbf{w}}$	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
Ľ	Graph circles, parabolas, ellipses, and hyperbolas
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Operate within and between the U.S. customary and metric system
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Kead and interpret tables and graphs
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplity rational expressions, including complex fractions

ENERGY TECHNOLOGY

	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve financial applications including simple and compound interest
	Solve linear equations
	Solve polynomial equations
	Solve proportion problems
	Solve quadratic equations
	Solve radical equations
	Solve rational equations
	Solve right triangles
Ļ	Solve systems of equations with three variables
	Solve systems of linear equations with three variables
Я	Solve systems of linear equations using various matrix methods
>	Solve trigonometric equations
Ð	Understand the concept of slope as a rate of change
()	Use and apply properties of vectors
Ľ	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the order of operations (grouping symbols, exponents)
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the rules of hypothesis testing for one and two sample populations
Ļ	Calculate measures of central tendency
Ċ	Calculate measures of dispersion
พิ	Convert between degree measure and radian measure
\geq	Determine confidence intervals
Ð	Graph exponential and logarithmic functions
	Perform the set operations of union, intersection, and complementation
Ľ	Solve an equation for a specified variable
	Solve linear inequalities
Ö	Solve obligue triangles using the laws of sine and cosine
Ĕ	Solve percent problems
	Translate verbal expressions into algebraic symbols and vice versa
	I lea Vann diagrame to illustrate properties of acts
	TUSE VEHITUIAUTATTIS LU IIIUSTIALE DI UDEI LIES UTSELS

ENVIRONMENTAL DESIGN

	Add, subtract, multiply, divide whole numbers
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph quadratic functions
	Graph trigonometric functions
vant	Perform basic operations with complex numbers
	Perform the set operations of union, intersection, and complementation
	Simplify radicals
á)	Simplify rational expressions, including complex fractions
	Solve absolute value equations
Ľ	Solve linear equations
~	Solve radical equations
	Solve rational equations
	Solve systems of equations with three variables
<u>.</u> <u>O</u>	Solve systems of linear equations using various matrix methods
	I lise and apply properties of vectors
	I lise the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	I lse tree diagrams
	I lse Venn diagrams to illustrate properties of sets
	Write linear equations from tables, graphs, and applications
Ļ	
Ę	Solve quadratic equations
ant	Solve quadratic equations Solve right triangles
vant	Solve quadratic equations Solve right triangles Use chi-square testing
elevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle
t relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions
nt relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents
ant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations
vant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem
evant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution
elevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency
relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion
y relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures
Ily relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks
ally relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Collect and analyze data
mally relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities
nimally relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine, evaluate, and graph functions
inimally relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials
minimally relevant relevant	Solve quadratic equations Solve right triangles Use chi-square testing Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply the properties of logarithms to solve exponential and logarithmic equations Apply the Pythagorean theorem Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate perimeters, areas, and volumes of basic geometric figures Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials Find the angles of regular polygons

ENVIRONMENTAL DESIGN

vant	Graph circles, parabolas, ellipses, and hyperbolas
	Graph polynomial functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform common constructions using a straightedge and compass
Ð	Perform operations on matrices
	Read and interpret tables and graphs
Ľ	Simplify algebraic expressions (distributive property, combine like terms)
>	Solve absolute value inequalities
É,	Solve linear inequalities
g	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
·	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use scientific notation
	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide with negative numbers
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the rules of hypothesis testing for one and two sample populations
Jt	Calculate slope
ar	Convert between degree measure and radian measure
\sim	Determine confidence intervals
لە ك	Determine correlation coefficients and predict using linear correlation
	Evaluate expressions and formulas
Ľ	Operate within and between the U.S. customary and metric system
Ļ	Solve 2 x 2 systems of equations graphically and by substitution and elimination
Ō	Solve an equation for a specified variable
Ž	Solve financial applications including simple and compound interest
<u> </u>	Solve percent problems
	Solve proportion problems
	Solve trigonometric equations
	Use the order of operations (grouping symbols, exponents)
	Utilize trigonometric identities

HEALTH CARE SUPPORT

Add, subtract, multiply, divide fractions Add, subtract, multiply, divide whole numbers Evaluate expressions and formulas Operate within and between the U.S. customary and metric system Read and interpret tables and graphs Solve percent problems Solve proportion problems Use proportion as applied to similar figures
Add, subtract, multiply, divide whole numbers Evaluate expressions and formulas Operate within and between the U.S. customary and metric system Read and interpret tables and graphs Solve percent problems Solve proportion problems
 Evaluate expressions and formulas Operate within and between the U.S. customary and metric system Read and interpret tables and graphs Solve percent problems Solve proportion problems Use proportion as applied to similar figures
Operate within and between the U.S. customary and metric system Read and interpret tables and graphs Solve percent problems Solve proportion problems Use proportion as applied to similar figures
Read and interpret tables and graphs Solve percent problems Solve proportion problems
Solve percent problems Solve proportion problems
Solve proportion problems
- Tose proportion as applied to similar rightes
+ Add, subtract, multiply, divide with negative numbers
Identify perfect squares and calculate square roots using a calculator
> Perform common constructions using a straightedge and compass
Solve financial applications including simple and compound interest
$\mathbf{\Psi}$ Understand the concept of slope as a rate of change
Apply properties of intersecting lines, transversals, and angles
Apply the rules of hypothesis testing for one and two sample populations
Calculate measures of central tendency
Calculate perimeters, areas, and volumes of basic geometric figures
Collect and analyze data
Determine evaluate and graph functions
Determine, evaluate, and graph functions Determine, evaluate, and graph functions Determine, evaluate, and graph functions
Solve an equation for a specified variable
Solve an equation for a specified variable
Solve intear equations
O Solve rational equations
Sector Use permutations, combinations, and other counting techniques
E Use scientific notation
 Use the binomial and normal distributions to determine probabilities
Use the order of operations (grouping symbols, exponents)
Use tree diagrams
Use Venn diagrams to illustrate properties of sets
Add, subtract, multiply, and divide polynomial expressions
Apply properties of integer exponents
Apply the properties of complex numbers in rectangular and polar forms \square
Apply the properties of logarithms to solve exponential and logarithmic equations
Apply the Pythagorean theorem
Approximate binomial distribution using normal distribution
Calculate measures of dispersion
Calculate slope
Calculate z-scores and percentile ranks
Convert between degree measure and radian measure
Determine confidence intervals

HEALTH CARE SUPPORT

	Determine correlation coefficients and predict using linear correlation
	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Perform basic operations with complex numbers
Ļ	Perform operations on matrices
	Simplify algebraic expressions (distributive property, combine like terms)
g	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
Ð	Solve absolute value equations
	Solve absolute value inequalities
K	Solve linear inequalities
Q	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
	Solve quadratic equations
	Solve radical equations
	Solve right triangles
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice versa
	Use and apply properties of vectors
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

HEALTH INFORMATION TECHNOLOGY

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
	Calculate z-scores and percentile ranks
	Collect and analyze data
	Compute probabilities
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
Ļ	Evaluate expressions and formulas
	Identify characteristics and properties of circles, triangles, and quadrilaterals
J	Identify perfect squares and calculate square roots using a calculator
>	Operate within and between the U.S. customary and metric system
Φ	Perform the set operations of union, intersection, and complementation
	Read and interpret tables and graphs
Ľ	Simplify algebraic expressions (distributive property, combine like terms)
	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Solve percent problems
	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the order of operations (grouping symbols, exponents)
	Use the order of operations (grouping symbols, exponents) Use tree diagrams

HEALTH INFORMATION TECHNOLOGY

	Add subtract multiply and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines transversals and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the properties of logantiants to solve exponential and logantiantic equations
	Apply the Pythagorean theorem
	Convert between degree measure and radian measure
	Determine, evaluate, and graph functions
	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions
Ļ	Graph quadratic functions
	Graph trigonometric functions
a	Perform basic operations with complex numbers
5	Perform common constructions using a straightedge and compass
á	Perform operations on matrices
	Simplify radicals
Ð	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
Ļ	Solve absolute value equations
Ō	Solve absolute value inequalities
5	Solve linear equations
<u> </u>	Solve linear inequalities
	Solve obligue triangles using the laws of sine and cosine
	Solve polynomial equations
	Solve quadratic equations
	Solve radical equations
	Solve rational equations
	Solve right triangles
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Lise and apply properties of vectors
	Use the properties of rational expenses
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an
	angle and use the inverse functions to find an angle
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

HOSPITALITY ADMINISTRATION

relevant	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Operate within and between the U.S. customary and metric system
	Read and interpret tables and graphs
۲ ا	Solve percent problems
high	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
Ļ	Calculate perimeters, areas, and volumes of basic geometric figures
an	Collect and analyze data
eve	Evaluate expressions and formulas
re	Solve financial applications including simple and compound interest
	Add, subtract, multiply, divide with negative numbers
Jt	Calculate measures of central tendency
ar	Calculate z-scores and percentile ranks
\sim	Compute probabilities
á)	Determine, evaluate, and graph functions
	Graph linear equations
E E	Identify characteristics and properties of circles, triangles, and guadrilaterals
	Identify perfect squares and calculate square roots using a calculator
\leq	Perform the set operations of union, intersection, and complementation
Ы	Solve an equation for a specified variable
Č	Understand the concept of slope as a rate of change
⊇.	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
]	Use Venn diagrams to illustrate properties of sets
	Write linear equations from tables, graphs, and applications
	Add subtract multiply and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply properties of complex numbers in rectangular and polar forms
Ļ	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the properties of logarithms to solve exponential and logarithmic equations
ý	Apply the rythagorean theorem
$\sum_{i=1}^{n}$	Approvine to be rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
L	Calculate measures of dispersion
Ļ	
0	Convert between degree measure and radian measure
	Determine correlation coefficients and predict using linear correlation
	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians

HOSPITALITY ADMINISTRATION

	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
Ļ	Solve absolute value equations
	Solve absolute value inequalities
g	Solve linear equations
\geq	Solve linear inequalities
\Box	Solve oblique triangles using the laws of sine and cosine
Ð	Solve polynomial equations
	Solve quadratic equations
K	Solve radical equations
Q	Solve rational equations
	Solve right triangles
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Use and apply properties of vectors
	Use chi-square testing
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the order of operations (grouping symbols, exponents)
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Utilize trigonometric identities

HUMAN SERVICES

highly	Solve percent problems
relevant	Solve proportion problems
	Add, subtract, multiply, divide whole numbers
lt	Apply the rules of hypothesis testing for one and two sample populations
	Calculate measures of central tendency
19	Collect and analyze data
()	Operate within and between the U.S. customary and metric system
	Read and interpret tables and graphs
Ľ	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
t	Add, subtract, multiply, divide fractions
ĽU	Perform operations on matrices
No.	Simplify algebraic expressions (distributive property, combine like terms)
e e	Solve absolute value equations
£.	Solve linear equations
∏\ 	Solve systems of linear equations using various matrix methods
Ja	Translate verbal expressions into algebraic symbols and vice versa
, Lic	Use permutations, combinations, and other counting techniques
j.	Use proportion as applied to similar figures
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
Jt	Apply the properties of logarithms to solve exponential and logarithmic equations
ЯL	Apply the Pythagorean theorem
19	Approximate binomial distribution using normal distribution
$\overline{\mathbf{v}}$	Calculate measures of dispersion
H ا	Calculate perimeters, areas, and volumes of basic geometric figures
Ψ.	Calculate slope
	Calculate z-scores and percentile ranks
ot	Compute probabilities
X	Convert between degree measure and radian measure
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Factor binomials, trinomials and four-term polynomials

HUMAN SERVICES

Find the angles of regular polygons Find trigonometric function values of any angle expressed in degrees or radians Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions Graph linear equations Graph linear inequalities Graph polynomial functions Graph quadratic functions Graph trigonometric functions Identify characteristics and properties of circles, triangles, and quadrilaterals Identify perfect squares and calculate square roots using a calculator Perform basic operations with complex numbers Perform common constructions using a straightedge and compass Perform the set operations of union, intersection, and complementation Simplify radicals not relevant Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value inequalities Solve linear inequalities Solve obligue triangles using the laws of sine and cosine Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve right triangles Solve systems of equations with three variables Solve trigonometric equations Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Use Venn diagrams to illustrate properties of sets Utilize trigonometric identities Write linear equations from tables, graphs, and applications

INDUSTRIAL TECHNOLOGY

	Apply the properties of logarithms to solve exponential and logarithmic equations
Ę	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate z-scores and percentile ranks
Ŋ	Compute probabilities
	Evaluate expressions and formulas
$\underline{\Theta}$	Graph linear inequalities
Ð	Graph guadratic functions
	Identify characteristics and properties of circles, triangles, and guadrilaterals
\geq	Operate within and between the U.S. customary and metric system
	Solve absolute value inequalities
<u>d</u>	Solve financial applications including simple and compound interest
·Ĕ	I lise the binomial and normal distributions to determine probabilities
<u> </u>	Use tree diagrams
	Add subtract multiply divide with negative numbers
	Add, subtract, multiply, divide whole numbers
	Apply properties of integer exponents
	Convert between degree measure and radian measure
J	Determine, evaluate, and graph functions
Я	Graph linear equations
\sim	Identify perfect squares and calculate square roots using a calculator
á)	Perform basic operations with complex numbers
	Solve linear equations
Ľ	Solve proportion problems
	Solve rational equations
	Solve trigonometric equations
	Use the properties of rational exponents
	Apply the Pythagorean theorem
Jt	Approximate binomial distribution using normal distribution
ัสเ	Graph exponential and logarithmic functions
é	Graph polynomial functions
ē	Solve 2 x 2 exctame of equations graphically and by substitution and elimination
~	Solve 2 x 2 systems of equations graphically and by substitution and emmination
all	Solve an equation for a specified variable
Ĕ	Solve in lear in lequalities
L	Solve oblique triangles using the laws of sine and cosine
Е	Solve percent problems
	Solve polynomial equations

INDUSTRIAL TECHNOLOGY

	Solve right triangles
_	Solve systems of equations with three variables
ן בו	Solve systems of linear equations using various matrix methods
้าล	Understand the concept of slope as a rate of change
i⊒ ∂	Use chi-square testing
i⊆ j	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Write linear equations from tables, graphs, and applications
	Add subtract multiply, and divide polynomial expressions
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of intersecting lines, transversals, and apples
	Apply properties of applex numbers in restangular and palar forms
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the rules of hypothesis testing for one and two sample populations
	Calculate measures of central tendency
	Calculate measures of dispersion
	Collect and analyze data
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
Jt	Factor binomials, trinomials and four-term polynomials
Я	Find the angles of regular polygons
10	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph trigonometric functions
U U	Perform common constructions using a straightedge and compass
	Perform operations on matrices
<u>ب</u>	Perform the set operations of union, intersection, and complementation
O	Read and interpret tables and graphs
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve absolute value equations
	Solve quadratic equations
	Solve radical equations
	Translate verbal expressions into algebraic symbols and vice versa
	Use and apply properties of vectors
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities

INFORMATION SECURITY

	Add, subtract, multiply, divide whole numbers
IJ	Add, subtract, multiply, divide with negative numbers
م ا	Apply properties of integer exponents
ē	Apply the Pythagorean theorem
<u>e</u>	Calculate perimeters, areas, and volumes of basic geometric figures
~	Collect and analyze data
	Compute probabilities
<u>l</u>	Evaluate expressions and formulas
	Perform basic operations with complex numbers
	Add, subtract, multiply, divide fractions
	Apply the rules of hypothesis testing for one and two sample populations
	Calculate measures of central tendency
	Calculate measures of dispersion
<u> </u>	Calculate slope
Ē	Calculate z-scores and percentile ranks
ต	Convert between degree measure and radian measure
\geq	Determine confidence intervals
Ū	Determine, evaluate, and graph functions
()	Find the angles of regular polygons
Ľ	Find trigonometric function values of any angle expressed in degrees or radians
	Graph linear equations
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Operate within and between the U.S. customary and metric system
	Add, subtract, multiply, and divide polynomial expressions
Ę	Apply properties of intersecting lines, transversals, and angles
ส	Apply the properties of complex numbers in rectangular and polar forms
\geq	Apply the properties of logarithms to solve exponential and logarithmic equations
Ð	Approximate binomial distribution using normal distribution
	Factor binomials, trinomials and four-term polynomials
Ľ	Graph circles, parabolas, ellipses, and hyperbolas
	Graph linear inequalities
\leq	Graph polynomial functions
Я	Graph quadratic functions
	Read and interpret tables and graphs
	Solve percent problems
<u> </u>	Understand the concept of slope as a rate of change
	Use the order of operations (grouping symbols, exponents)
	Use tree diagrams

INFORMATION SECURITY

	Determine correlation coefficients and predict using linear correlation
	Graph exponential and logarithmic functions
	Graph trigonometric functions
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Solve linear equations
2	Solve linear inequalities
7	Solve oblique triangles using the laws of sine and cosine
$\overline{\mathbf{v}}$	Solve polynomial equations
$\overline{1}$	Solve proportion problems
5	Solve quadratic equations
D	Solve radical equations
_	Solve rational equations
ร	Solve right triangles
\leq	Solve systems of equations with three variables
_	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice versa
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

LIBRARY TECHNICAL ASSISTANT

	Ľ	Add, subtract, multiply, divide fractions
highly	ar	Add, subtract, multiply, divide whole numbers
	Ň	Collect and analyze data
	ele	Read and interpret tables and graphs
	Ľ	Solve percent problems
		Operate within and between the U.S. customary and metric system
relev	/ant	Solve financial applications including simple and compound interest
		Add, subtract, multiply, divide with negative numbers
		Apply properties of intersecting lines, transversals, and angles
		Apply the rules of hypothesis testing for one and two sample populations
	Ļ	Calculate measures of central tendency
а	ar	Calculate measures of dispersion
З	N	Calculate perimeters, areas, and volumes of basic geometric figures
J	Ð	Compute probabilities
Π	Ð	Determine, evaluate, and graph functions
	L	Graph linear equations
		Perform common constructions using a straightedge and compass
		Use Venn diagrams to illustrate properties of sets
		Add, subtract, multiply, and divide polynomial expressions
		Apply properties of integer exponents
		Apply the properties of complex numbers in rectangular and polar forms
		Apply the properties of logarithms to solve exponential and logarithmic equations
		Apply the Pythagorean theorem
		Approximate binomial distribution using normal distribution
		Calculate slope
- -	ר	Calculate z-scores and percentile ranks
Ż		Convert between degree measure and radian measure
ר	Δ	Determine confidence intervals
	>	Determine correlation coefficients and predict using linear correlation
Ó	0	Evaluate expressions and formulas
		Eactor binomials, trinomials and four-term polynomials
		Find the angles of regular polygons
	,	Find trigonometric function values of any angle expressed in degrees or radians
	5	Graph circles parabolas ellipses and hyperbolas
	2	Graph exponential and logarithmic functions
_	-	Graph linear inequalities
		Graph polynomial functions
		Graph guadratic functions
		Graph trigonometric functions
		Identify characteristics and properties of circles, triangles, and guadrilatorals
		Identify perfect squares and calculate square reats using a calculator
		Perform basis operations with complex pumbers
		remark basic operations with complex numbers

LIBRARY TECHNICAL ASSISTANT

not relevant	Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Simplify rational expressions, including complex fractions Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equations Solve absolute value equations Solve an equation for a specified variable Solve linear equations Solve linear inequalities Solve proportion problems Solve polynomial equations Solve polynomial equations Solve polynomial equations Solve rational equations Solve rational equations Solve rational equations Solve right triangles Solve systems of equations with three variables Solve systems of equations using various matrix methods Solve trigonometric equations Translate verbal expressions into algebraic symbols and vice versa Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use proportion as applied to similar figures Use proportion as applied to similar figures Use the binomial and normal distributions to determine probabilities
ŭ	Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use permutations, combinations, and other counting techniques Use proportion as applied to similar figures
	Use scientific notation Use the binomial and normal distributions to determine probabilities Use the order of operations (grouping symbols, exponents) Use the properties of rational exponents Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Utilize trigonometric identities Write linear equations from tables, graphs, and applications

MACHINE TOOL TECHNOLOGY

highly relevant	Add, subtract, multiply, divide fractions Add, subtract, multiply, divide whole numbers Add, subtract, multiply, divide with negative numbers Apply properties of intersecting lines, transversals, and angles Apply the Pythagorean theorem Calculate perimeters, areas, and volumes of basic geometric figures Evaluate expressions and formulas Find the angles of regular polygons Identify characteristics and properties of circles, triangles, and quadrilaterals Identify perfect squares and calculate square roots using a calculator Operate within and between the U.S. customary and metric system Perform common constructions using a straightedge and compass Read and interpret tables and graphs Solve an equation for a specified variable Solve proportion problems Solve proportion problems Solve right triangles
	Use proportion as applied to similar figures Use the order of operations (grouping symbols, exponents) Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
relevant	Apply properties of integer exponents Apply the properties of complex numbers in rectangular and polar forms Convert between degree measure and radian measure Find trigonometric function values of any angle expressed in degrees or radians Perform the set operations of union, intersection, and complementation Simplify algebraic expressions (distributive property, combine like terms) Solve financial applications including simple and compound interest Solve oblique triangles using the laws of sine and cosine Solve trigonometric equations Translate verbal expressions into algebraic symbols and vice versa Understand the concept of slope as a rate of change Use scientific notation Use Venn diagrams to illustrate properties of sets Utilize trigonometric identities

MACHINE TOOL TECHNOLOGY

	Add, subtract, multiply, and divide polynomial expressions
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate slope
	Calculate z-scores and percentile ranks
	Collect and analyze data
	Compute probabilities
	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
	Determine, evaluate, and graph functions
	Factor binomials, trinomials and four-term polynomials
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
Ļ	Graph linear equations
	Graph linear inequalities
ろ	Graph polynomial functions
2	Graph quadratic functions
$\overline{\mathbf{O}}$	Graph trigonometric functions
Ð	Perform basic operations with complex numbers
	Perform operations on matrices
Å	Simplify radicals
Q	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve linear inequalities
	Solve polynomial equations
	Solve quadratic equations
	Solve radical equations
	Solve rational equations
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Write linear equations from tables, graphs, and applications

MEDICAL ASSISTING

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply the rules of hypothesis testing for one and two sample populations
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate z-scores and percentile ranks
	Collect and analyze data
Ļ	Compute probabilities
	Compute probabilities
а	Determine confidence intervais
	Determine, evaluate, and graph functions
Ū	Evaluate expressions and formulas
	Operate within and between the U.S. customary and metric system
E E	Read and interpret tables and graphs
	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Solve percent problems
	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Use tree diagrams
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
L L	Apply the Pythagorean theorem
Ċ	
a	Calculate perimeters, areas, and volumes of basic geometric figures
\sim	Calculate slope
Ū	Convert between degree measure and radian measure
	Convert between degree measure and redict using linear correlation
Ψ	Determine correlation coefficients and predict using inear correlation
	Factor binomiais, trinomiais and four-term polynomiais
L L	Find the angles of regular polygons
no	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions

MEDICAL ASSISTING

	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
Ľ	Solve absolute value inequalities
\subseteq	Solve linear equations
σ	Solve linear inequalities
	Solve oblique triangles using the laws of sine and cosine
$\overline{\mathbf{U}}$	Solve polynomial equations
Ð	Solve quadratic equations
	Solve radical equations
	Solve rational equations
0	Solve right triangles
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

MEDICAL LABORATORY TECHNICIAN

Add, subtract, multiply, divide fractions Add, subtract, multiply, divide whole numbers Add, subtract, multiply, divide with negative numbers Apply the properties of logarithms to solve exponential and logarithmic equations Apply the properties of logarithms to solve exponential and logarithmic equations Apply the properties of logarithms to solve exponential and logarithmic equations Apply the properties of logarithms to solve exponential and logarithmic equations Approximate binomial distribution Calculate measures of central tendency Calculate measures of central tendency Calculate and analyze data Compute probabilities Determine confidence intervals Determine confidence intervals Determine confidence intervals Identify perfect squares and calculate square roots using a calculator Operate within and between the U.S. customary and metric system Simplify algebraic expressions (distributive property, combine like terms) Solve an equation for a specified variable Solve proportion problems Translate verbal expressions into algebraic symbols and vice versa Use chi-square testing Use permutations, combinations, and other counting techniques Use permutations, combinations to determine probabilities <		
 Simplify algebraic expressions (distributive property, combine like terms) Solve an equation for a specified variable Solve linear equations Solve percent problems Solve proportion problems Translate verbal expressions into algebraic symbols and vice versa Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities Use tree diagrams Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply properties of complex numbers in rectangular and polar forms Apply the Pythagorean theorem Calculate perimeters, areas, and volumes of basic geometric figures Calculate slope Convert between degree measure and radian measure Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials Find the angles of regular polygons Find the angles of regular polygons Find the angles of regular polygons Find trigonometric function values of any angle expressed in degrees or radians Graph exponential and logarithmic functions 	elevant	Add, subtract, multiply, divide fractions Add, subtract, multiply, divide whole numbers Add, subtract, multiply, divide with negative numbers Apply the properties of logarithms to solve exponential and logarithmic equations Apply the rules of hypothesis testing for one and two sample populations Approximate binomial distribution using normal distribution Calculate measures of central tendency Calculate measures of dispersion Calculate z-scores and percentile ranks Collect and analyze data Compute probabilities Determine confidence intervals Determine correlation coefficients and predict using linear correlation Evaluate expressions and formulas Identify perfect squares and calculate square roots using a calculator Operate within and between the U.S. customary and metric system
Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply properties of intersecting lines, transversals, and angles Apply the properties of complex numbers in rectangular and polar forms Apply the Pythagorean theorem Calculate perimeters, areas, and volumes of basic geometric figures Calculate slope Convert between degree measure and radian measure Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials Find the angles of regular polygons Find trigonometric function values of any angle expressed in degrees or radians Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions	re	Operate within and between the U.S. customary and metric system Simplify algebraic expressions (distributive property, combine like terms) Solve an equation for a specified variable Solve linear equations Solve percent problems Solve proportion problems Translate verbal expressions into algebraic symbols and vice versa Use chi-square testing Use permutations, combinations, and other counting techniques Use scientific notation Use the binomial and normal distributions to determine probabilities
	not relevant	Use tree diagrams Add, subtract, multiply, and divide polynomial expressions Apply properties of integer exponents Apply properties of intersecting lines, transversals, and angles Apply the properties of complex numbers in rectangular and polar forms Apply the Pythagorean theorem Calculate perimeters, areas, and volumes of basic geometric figures Calculate slope Convert between degree measure and radian measure Determine, evaluate, and graph functions Factor binomials, trinomials and four-term polynomials Find the angles of regular polygons Find trigonometric function values of any angle expressed in degrees or radians Graph circles, parabolas, ellipses, and hyperbolas Graph exponential and logarithmic functions

MEDICAL LABORATORY TECHNICIAN

	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Read and interpret tables and graphs
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
ц	Solve absolute value equations
\Box	Solve absolute value inequalities
J	Solve financial applications including simple and compound interest
>	Solve linear inequalities
Ð	Solve oblique triangles using the laws of sine and cosine
Ð	Solve polynomial equations
Ľ	Solve quadratic equations
ڀ	Solve radical equations
Ō	Solve rational equations
	Solve right triangles
	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use proportion as applied to similar figures
	Use the order of operations (grouping symbols, exponents)
	Use the properties of rational exponents
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

OFFICE ADMINISTRATION

ht	Add, subtract, multiply, divide fractions
levar	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
re	Calculate measures of central tendency
\geq	Collect and analyze data
Πβ	Identify perfect squares and calculate square roots using a calculator
Ξ	Operate within and between the U.S. customary and metric system
	Read and interpret tables and graphs
ப	Simplify algebraic expressions (distributive property, combine like terms)
Ţ	Simplify rational expressions, including complex fractions
Я	Solve an equation for a specified variable
\sim	Solve financial applications including simple and compound interest
á)	Solve percent problems
	Solve proportion problems
Ľ	Solve rational equations
	Translate verbal expressions into algebraic symbols and vice versa
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
Ļ	Calculate measures of dispersion
	Calculate perimeters, areas, and volumes of basic geometric figures
g	Calculate slone
\geq	Calculate z-scores and percentile ranks
$\overline{\mathbf{O}}$	Compute probabilities
not rel	Convert between degree measure and radian measure
	Determine confidence intervals
	Determine confidence intervals
	Determine correlation coefficients and predict using inear correlation
	Determine, evaluate, and graph functions
	Evaluate expressions and formulas
	Factor binomiais, trinomiais and four-term polynomiais
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities

OFFICE ADMINISTRATION

	-
not relevant	Graph polynomial functions Graph quadratic functions Graph trigonometric functions Identify characteristics and properties of circles, triangles, and quadrilaterals Perform basic operations with complex numbers Perform common constructions using a straightedge and compass Perform operations on matrices Perform the set operations of union, intersection, and complementation Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value equalities Solve absolute value inequalities Solve linear equations Solve polynomial equations Solve polynomial equations Solve quadratic equations Solve quadratic equations Solve radical equations Solve systems of equations using various matrix methods Solve systems of linear equations using various matrix methods Solve trigonometric equations Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use proportion as applied to similar figures Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use the diarams
	Use proportion as applied to similar figures Use scientific notation Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

PARALEGAL STUDIES

	Add, subtract, multiply, divide fractions
<u>ب</u>	Add, subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with negative numbers
	Calculate measures of central tendency
	Collect and analyze data
\Box	
g	Operate within and between the LLS, customary and metric system
>	Pead and interpret tables and graphs
\Box	Solve financial applications including simple and compound interact
	Solve intericial applications including simple and compound interest
Ľ	Solve intear equations
	Solve percent problems
	Solve proportion problems
	Use the binomial and normal distributions to determine probabilities
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of dispersion
	Calculate perimeters, areas, and volumes of basic geometric figures
Ę	Calculate clone
Ъ	Calculate slope
	Calculate 2-scores and percentile ranks
ίΩ.	Determine a sufficience internale
<u> </u>	
Ū.	Determine correlation coefficients and predict using linear correlation
<u> </u>	Determine, evaluate, and graph functions
T T	Evaluate expressions and formulas
ğ	Factor binomials, trinomials and four-term polynomials
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	nucruiry characteristics and properties of circles, thangles, and quadrilaterals

PARALEGAL STUDIES

	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve an equation for a specified variable
	Solve linear inequalities
Ę	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
Ø	Solve quadratic equations
	Solve radical equations
<u>H</u>	Solve rational equations
ų	Solve right triangles
not r	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve ingonometric equations
	I ransiale verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use proportion as applied to similar figures
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Use chi-square testing
	Use scientific notation
	Write linear equations from tables, graphs, and applications

PARAMEDIC SCIENCE

ц.	Add, subtract, multiply, divide fractions
highly relevan	Add, subtract, multiply, divide whole numbers
	Evaluate expressions and formulas
	Operate within and between the U.S. customary and metric system
	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate z-scores and percentile ranks
	Collect and analyze data
Ę	
	Determine confidence intervals
a D	Factor binomials, trinomials and four-term polynomials
	Perform basic operations with complex numbers
<u>e</u>	Perform common constructions using a straightedge and compass
Ū.	Read and interpret tables and graphs
Ľ	Solve an equation for a specified variable
	Solve financial applications including simple and compound interest
	Isolve percent problems
	Solve proportion problems
	Translate verbal expressions into algebraic symbols and viceversa
	Understand the concept of slope as a rate of change
	Use the order of operations (grouping symbols, exponents)
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
F	Approximate binomial distribution using normal distribution
ต	Calculate perimeters, areas, and volumes of basic geometric figures
Š	Calculate slope
Ð	Convert between degree measure and radian measure
	Determine correlation coefficients and predict using linear correlation
Ľ	Determine, evaluate, and graph functions
ц.	Find the angles of regular polygons
0	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions

PARAMEDIC SCIENCE

	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve linear equations
Ц	Solve linear inequalities
	Solve oblique triangles using the laws of sine and cosine
В	Solve polynomial equations
2	Solve quadratic equations
$\overline{\mathbf{O}}$	Solve radical equations
Ð	Solve rational equations
	Solve right triangles
Ц	Solve systems of equations with three variables
Q	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use scientific notation
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

RESPIRATORY CARE

	Add subtract multiply divide fractions
	Add subtract, multiply, divide whole numbers
	Add, subtract, multiply, divide with pegative numbers
	Collect and analyze data
	Evaluate expressions and formulas
ىب	Evaluate expressions and normulas
	Operate within and between the U.S. customary and metric system
ิต	Read and interpret tables and graphs
Š	Simplify algebraic expressions (distributive property, combine like terms)
Ð	Solve an equation for a specified variable
<u>(</u>)	Solve linear equations
Ľ	Solve linear inequalities
	Solve percent problems
	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
1	Calculate measures of dispersion
ש	Calculate perimeters areas and volumes of basic geometric figures
Š	Calculate slope
á)	Calculate z-scores and percentile ranks
	Campute probabilities
E E	Compute probabilities
	Determine confidence intervale
Б	Determine confidence intervals
ž	Determine correlation coefficients and predict using linear correlation
<u> </u>	Determine, evaluate, and graph functions
	Factor binomiais, trinomiais and tour-term polynomiais
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph linear equations
	Graph linear inequalities
	Graph polynomial functions

RESPIRATORY CARE

	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
Ч	Solve financial applications including simple and compound interest
	Solve oblique triangles using the laws of sine and cosine
ろ	Solve polynomial equations
>	Solve quadratic equations
$\overline{\mathbf{O}}$	Solve radical equations
Ð	Solve rational equations
	Solve right triangles
Ч	Solve systems of equations with three variables
Q	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

SURGICAL TECHNOLOGY

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
	Operate within and between the U.S. customary and metric system
Ľ	Read and interpret tables and graphs
	Simplify algebraic expressions (distributive property, combine like terms)
Q	Solve an equation for a specified variable
	Solve linear equations
<u><u> </u></u>	Solve linear inequalities
Ū.	Solve percent problems
	Solve proportion problems
	Use scientific notation
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Add, subtract, multiply, divide with negative numbers
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
Ę	Calculate nerimeters, areas, and volumes of basic geometric figures
אר	Calculate slope
Š	Calculate z-scores and percentile ranks
٦ آ	Collect and analyze data
T	
Ľ	Convert between degree measure and radian measure
<u> </u>	Determine confidence intervals
Ō	Determine correlation coefficients and predict using linear correlation
č	Determine evaluate and graph functions
	Evaluate expressions and formulas
	Easter binomials, tripomials and four term polynomials
	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degree or radians
	Craph circles, parabolas, ellipses, and hyperbolas
	Craph exponential and logarithmic functions
	Graph linear equations
	Graph intear inequalities
	Graph quadratic functions
SURGICAL TECHNOLOGY

	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
	Simplify radicals
	Simplify rational expressions, including complex fractions
	Solve 2 x 2 systems of equations graphically and by substitution and elimination
	Solve absolute value equations
	Solve absolute value inequalities
	Solve financial applications including simple and compound interest
Ļ	Solve oblique triangles using the laws of sine and cosine
	Solve polynomial equations
g	Solve quadratic equations
\geq	Solve radical equations
<u> </u>	Solve rational equations
Ð	Solve right triangles
	Solve systems of equations with three variables
K	Solve systems of linear equations using various matrix methods
Q	Solve trigonometric equations
	Translate verbal expressions into algebraic symbols and vice versa
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

THERAPEUTIC MASSAGE

	Add, subtract, multiply, divide fractions
	Add, subtract, multiply, divide whole numbers
Ţ	Add, subtract, multiply, divide with negative numbers
	Evaluate expressions and formulas
(V)	Operate within and between the U.S. customary and metric system
	Solve an equation for a specified variable
<u><u> </u></u>	Solve percent problems
Ū.	Solve proportion problems
	Translate verbal expressions into algebraic symbols and vice versa
	Use the order of operations (grouping symbols, exponents)
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply properties of intersecting lines, transversals, and angles
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Apply the Pythagorean theorem
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate perimeters, areas, and volumes of basic geometric figures
	Calculate slope
J	Calculate z-scores and percentile ranks
אר	Collect and analyze data
Š	Compute probabilities
٦)	Convert between degree measure and radian measure
N	Determine confidence intervale
Ľ	Determine confliction coefficients and predict using linear correlation
	Determine correlation coerricents and predict using intear correlation
Б	Easter binomials, trinomials and four term polynomials
ž	Find the angles of regular polygons
	Find trigonometric function values of any angle expressed in degrees or radians
	Craph circles, parabolas, ellipses, and hyperbolas
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph exponential and logarithmic functions
	Graph Inear equations
	Graph linear inequalities
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Identify perfect squares and calculate square roots using a calculator
	Perform basic operations with complex numbers

THERAPEUTIC MASSAGE

	Perform common constructions using a straightedge and compass Perform operations on matrices Perform the set operations of union, intersection, and complementation Read and interpret tables and graphs Simplify algebraic expressions (distributive property, combine like terms) Simplify radicals Simplify radicals Solve 2 x 2 systems of equations graphically and by substitution and elimination Solve absolute value equations Solve absolute value inequalities
not relevant	Solve linear inequalities Solve linear inequalities Solve oblique triangles using the laws of sine and cosine Solve polynomial equations Solve quadratic equations Solve radical equations Solve rational equations Solve rational equations Solve right triangles Solve systems of equations with three variables Solve systems of equations using various matrix methods Solve trigonometric equations Understand the concept of slope as a rate of change Use and apply properties of vectors Use chi-square testing Use permutations, combinations, and other counting techniques Use proportion as applied to similar figures Use scientific notation Use the binomial and normal distributions to determine probabilities Use the properties of rational exponents Use tree diagrams Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle and use the inverse functions to find an angle Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities Write linear equations from tables, graphs, and applications

VISUAL COMMUNICATIONS

L L	Add, subtract, multiply, divide whole numbers
ar J	Add, subtract, multiply, divide with negative numbers
	Apply properties of intersecting lines, transversals, and angles
T e	Identify characteristics and properties of circles, triangles, and quadrilaterals
	Add, subtract, multiply, divide fractions
	Apply the Pythagorean theorem
ц	Calculate perimeters, areas, and volumes of basic geometric figures
۲ ۲	Collect and analyze data
	Graph linear equations
Ó	Operate within and between the U.S. customary and metric system
	Solve an equation for a specified variable
Ľ	Solve percent problems
	Solve proportion problems
	Use scientific notation
	Apply the rules of hypothesis testing for one and two sample populations
	Approximate binomial distribution using normal distribution
	Calculate measures of central tendency
	Calculate measures of dispersion
	Calculate slope
L.	Calculate z-scores and percentile ranks
	Compute probabilities
а И	Determine confidence intervals
	Determine correlation coefficients and predict using linear correlation
	Determine, evaluate, and graph functions
Ð	Evaluate expressions and formulas
Ľ	Find the angles of regular polygons
	Graph circles, parabolas, ellipses, and hyperbolas
	Graph linear inequalities
ש	Identify perfect squares and calculate square roots using a calculator
3	Perform basic operations with complex numbers
	Simplify algebraic expressions (distributive property, combine like terms)
	Simplify rational expressions, including complex fractions
3	Solve absolute value equations
_	Solve financial applications including simple and compound interest
	Solve polynomial equations
	Solve quadratic equations
	Solve rational equations
	Translate verbal expressions into algebraic symbols and vice versa
	Use the order of operations (grouping symbols, exponents)

VISUAL COMMUNICATIONS

	Add subtrast multiply, and divide polynomial expressions
	Add, subtract, multiply, and divide polynomial expressions
	Apply properties of integer exponents
	Apply the properties of complex numbers in rectangular and polar forms
	Apply the properties of logarithms to solve exponential and logarithmic equations
	Convert between degree measure and radian measure
	Factor binomials, trinomials and four-term polynomials
	Find trigonometric function values of any angle expressed in degrees or radians
	Graph exponential and logarithmic functions
	Graph polynomial functions
	Graph quadratic functions
	Graph trigonometric functions
	Perform common constructions using a straightedge and compass
	Perform operations on matrices
	Perform the set operations of union, intersection, and complementation
-	Read and interpret tables and graphs
	Simplify radicals
F	Solve 2 x 2 systems of equations graphically and by substitution and elimination
>	Solve absolute value inequalities
$\tilde{1}$	Solve linear equations
5	Solve linear inequalities
ע	Solve oblique triangles using the laws of sine and cosine
	Solve radical equations
5	Solve right triangles
Ľ	Solve systems of equations with three variables
	Solve systems of linear equations using various matrix methods
	Solve trigonometric equations
	Understand the concept of slope as a rate of change
	Use and apply properties of vectors
	Use chi-square testing
	Use permutations, combinations, and other counting techniques
	Use proportion as applied to similar figures
	Use the binomial and normal distributions to determine probabilities
	Use the properties of rational exponents
	Use tree diagrams
	Use trigonometric tables and calculators to find sine, cosine, and tangent of an angle
	and use the inverse functions to find an angle
	Use Venn diagrams to illustrate properties of sets
	Utilize trigonometric identities
	Write linear equations from tables, graphs, and applications

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