Ganado Unified School District #20 (Mathematics / Grade 7)

PACING Guide SY 2022-2023

Time Line & Resources (Identify textbook, page number or website link & etc.)	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
		First Quarter		
Textbook:20220	Module 1	Module 1	Module 1	Module 1
Edition	Proportional Relationships	Proportional	Proportional Relationships	Proportional
Reveal Math		Relationships		Relationships
Course 2 Volume 2	7.RP. A		Lesson 1-1	
	Analyze proportional	What does it mean for	I can find unit rates when one	Unit rate
Module 1	relationships and use them to	two quantities to be in a	or both quantities are	Proportional
Proportional	solve mathematical problems	proportional	fractions.	relationship
Relationships	and problems in real-world	relationship?	1000	Constant of
	context.	# WARENESS	Lesson 1-2	proportionality
Embedded:	and the second s		I can use models and ratio	Proportional
ALEKS online			reasoning to understand how	Nonproportional
support by Glencoe	7.RP.A.1		a proportional relationship	Proportion
			can exist between quantities.	
	Compute unit rates associated			
	with ratios involving both simple		Lesson 1-3	
	and complex fractions, including	5 17	I can determine whether two	
	ratios of quantities measured in		quantities shown in a table are	
	like or different units.		in a proportional relationship	
			by testing equivalent ratios.	

7.RP.A.2

Recognize and represent proportional relationships between quantities.

a. Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).

b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.

d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where ris the unit rate.





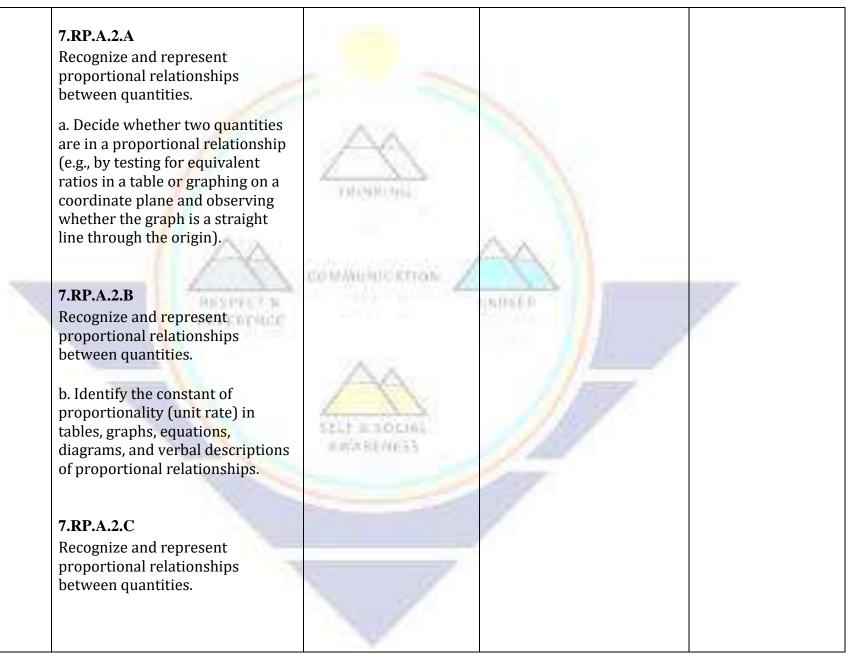
Lesson 1-4 I can determine if a relationship is proportional by analyzing its graph and explain what the points (0,0) and (1, r) mean on the graph of a proportional relationship.

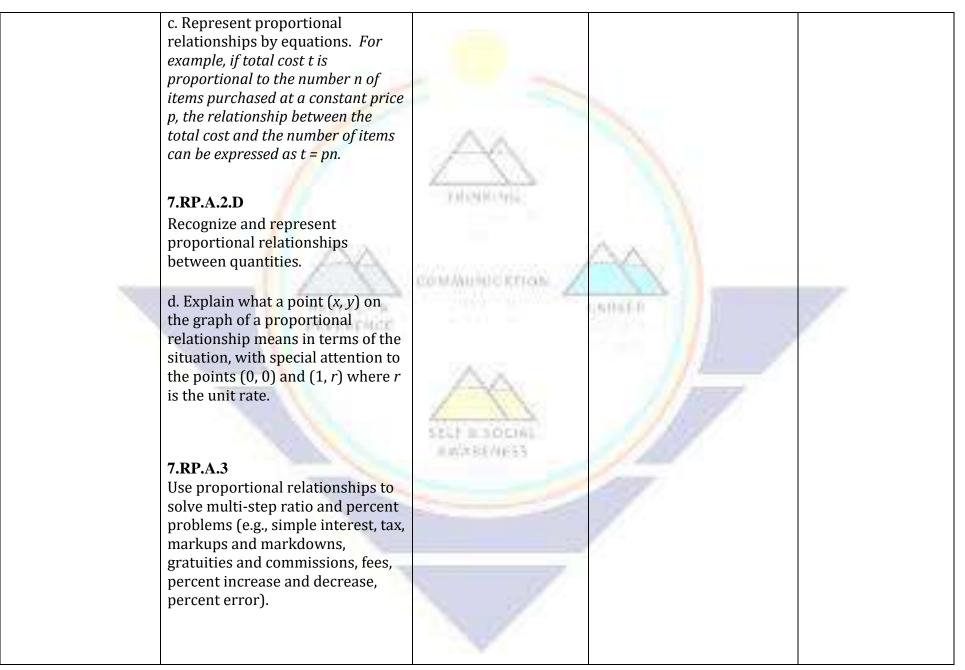
Lesson 1-5

I can write equations to represent proportional relationships and identify the constant of proportionality in the equation representing a proportional relationship.

Lesson 1-6

I can solve problems involving proportional relationships by making a table using a graph, or writing an equation.





	Module 2	Module 2	Module 2	Module 2
	Solve Percent Problems	Solve Percent	Solve Percent Problems	Solve Percent
		Problems		Problems
	7.RP.A.3	How can percent	Lesson 2-1	
	Use proportional relationships to	describe the change of a	I can use proportional	Percent of change
Module 2	solve multi-step ratio and percent	quantity?	relationships to solve percent	Percent of increase
Solve Percent	problems (e.g., simple interest, tax,	A. 2	of change problems.	Percent of decrease
Problems	markups and markdowns,			sales tax
	gratuities and commissions, fees,	1	Lesson 2-2	gratuity
Embedded:	percent increase and decrease,	P M CALIFURNIA -	I can use proportional	markup
ALEKS online	percent error).	121521521145	relationships to find the	selling price
support by Glencoe			amount of tax charged for an	tip
	7.EE.A		item.	wholesale cost
	Use properties of operations to	0.0000000000000000000000000000000000000	Constant of the second s	discount
100	generate equivalent	COMMUNICATION X	Lesson 2-3	markdown
	expressions.	and the second sec	I can use proportional	interest
100	PEVENDACE		relationships to find the	principal
	7.EE.A.2		amount to pay for a tip and	simple interest
		DOM: NO	the amount of markup on	commission
	Rewrite an expression in different		items.	fee amount of error
	forms, and understand the		Lesson 2-4	
	relationship between the different	A		percent of error
	forms and their meanings in a	SELF BIROCHE	I can use proportional relationships to find the	
	problem context. <i>For example, a +</i>	用的本书的价格等于	amount of discount or	
	0.05a = 1.05a means that "increase		markdown.	
	by 5%" is the same as "multiply by		markuown.	
	1.05."		Lesson 2-5	
			I can use the simple interest	
			formula to find the amount of	
			interest earned for a given	
			principal, at a given interest	
			rate, for a given period of	
			time.	

		Тисяночы	Lesson 2-6 I can use proportional relationships to find the amount of commission earned on sales and the amount of fees for certain services. Lesson 2-7 I can use proportional relationships to solve percent error problems.	
	Module 3	Module 3	Module 3	Module 3
	Operations with Integers 7.NS.A	Operations with Integers	Operations with Integers	Operations with Integers
Module 3 Operations with Integers	Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers except division by	How are operations with integers related to operations with whole numbers?	Lesson 3-1 I can use different methods, including algebra tiles, number lines or absolute value, to add integers.	additive inverse Additive Inverse Property opposites additive inverse
Embedded: ALEKS online	zero.	SELT BISOCIAL BRANKHESS	Lesson 3-2	Distributive Property Multiplicative
support by Glencoe	7.NS.A.1 Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.		I can use different methods, including algebra tiles, number lines or the additive inverse, to subtract integers. Lesson 3-3 I can use number lines and	Identity Property Multiplicative Property of Zero
			mathematical properties to multiply integers	

7.NS.A.1.A

Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

a. Describe situations in which opposite quantities combine to make 0.

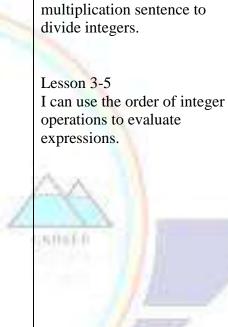
7.NS.A.1.B

Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world context.



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Lesson 3-4

I can use a related

7.NS.A.1.C

Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

c. Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world context.

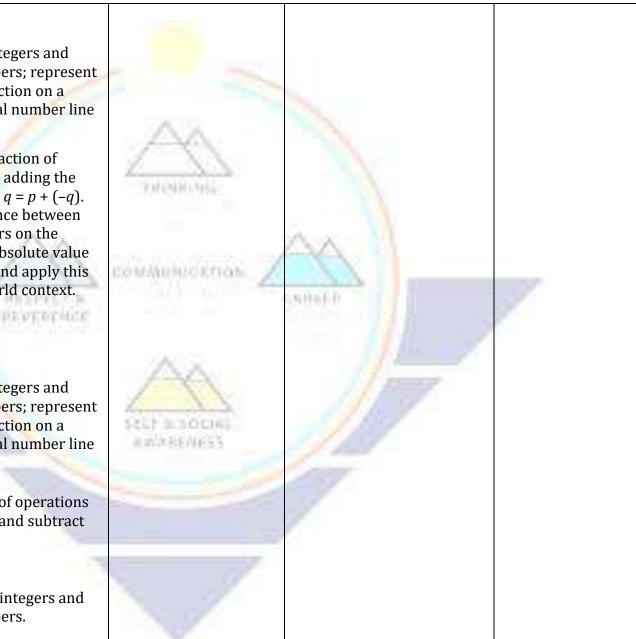
7.NS.A.1.D

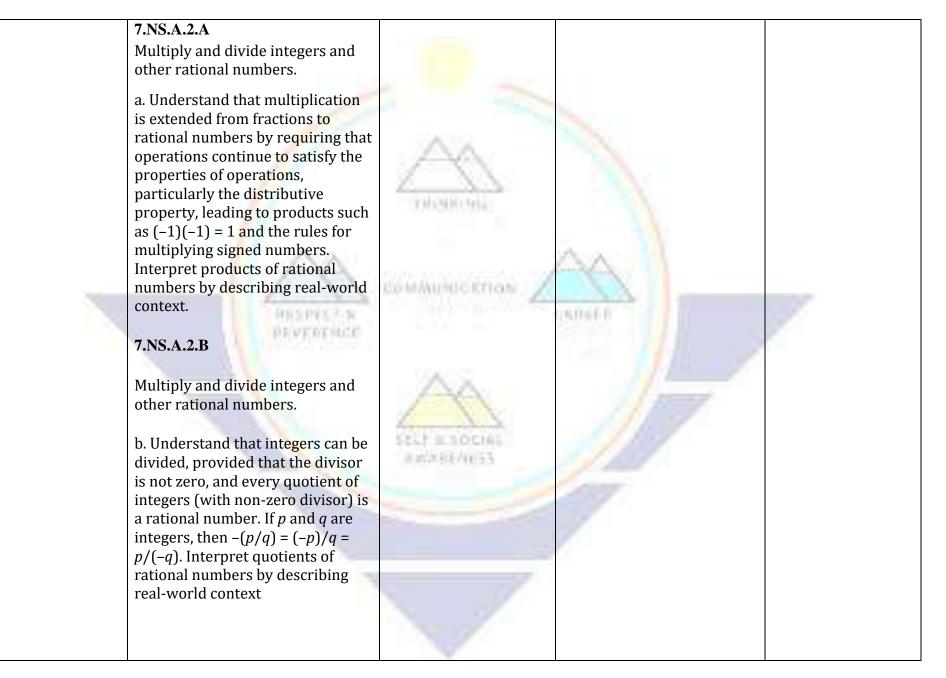
Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

d. Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.A.2

Multiply and divide integers and other rational numbers.





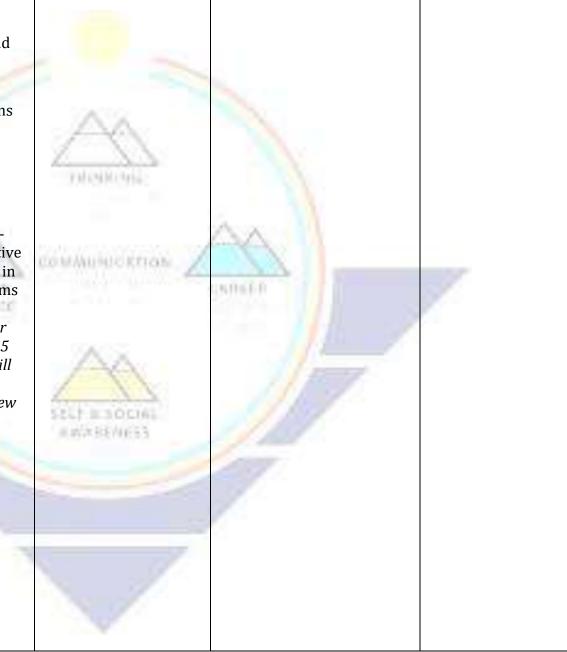
7.NS.A.2.C

Multiply and divide integers and other rational numbers.

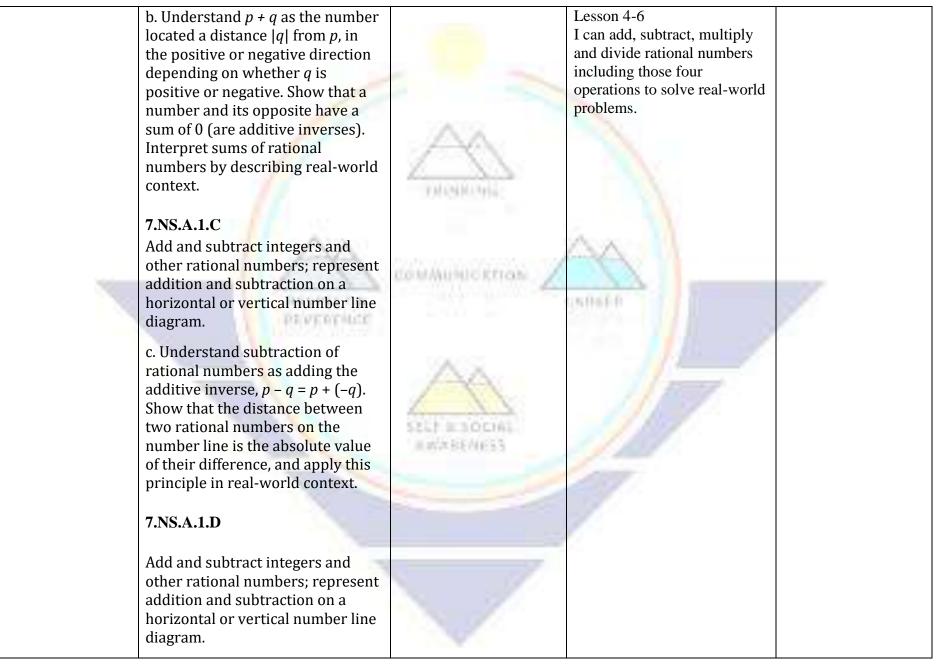
c. Apply properties of operations as strategies to multiply and divide rational numbers.

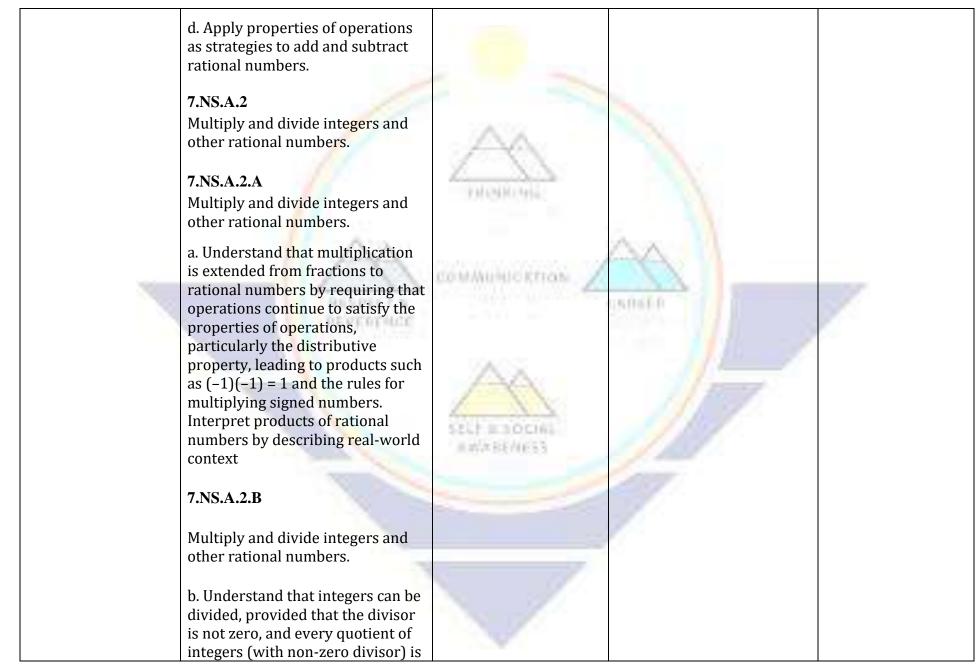
7.EE.B.3

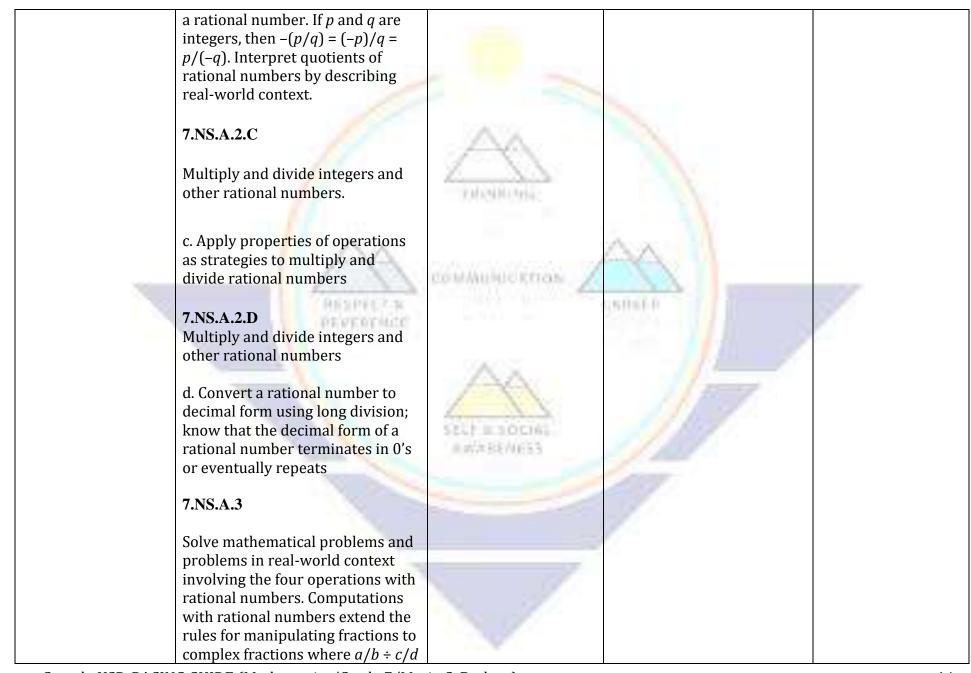
Solve multi-step mathematical problems and problems in realworld context posed with positive and negative rational numbers in any form. Convert between forms as appropriate and assess the reasonableness of answers. For example, If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50 per hour.

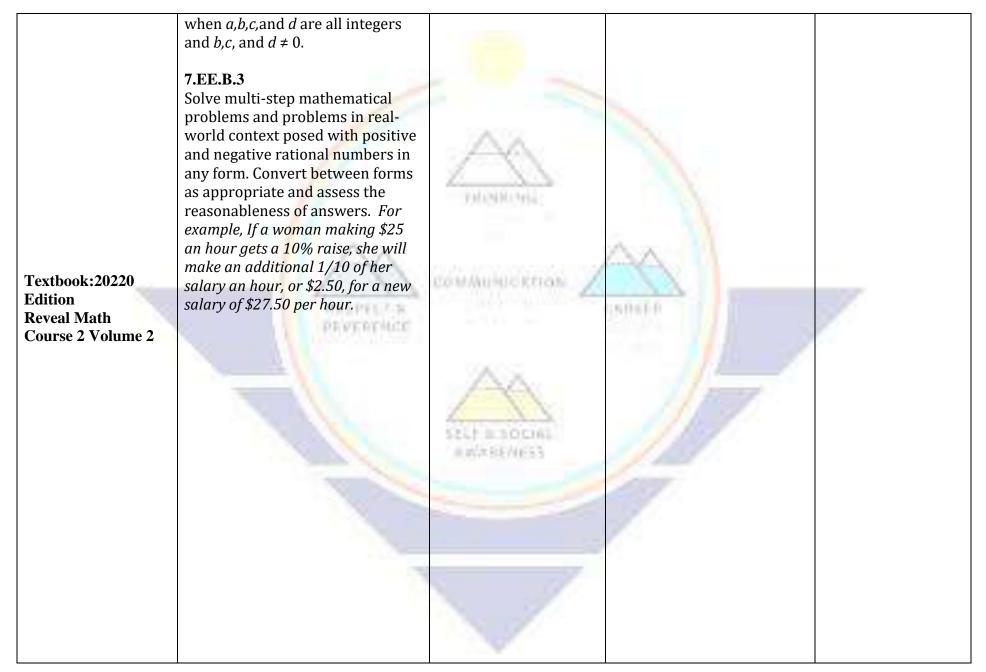


		Second Quarter		
Module 4 Operations with Rational Numbers	Module 4 Operations with Rational Numbers	Module 4 Operations with Rational Numbers	Module 4 Operations with Rational Numbers	Module 4 Operations with Rational Numbers
Embedded: ALEKS online support by Glencoe	7.NS. A Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers except division by	How are operations with rational numbers related to operations with integers?	Lesson 4-1 I can divide rational numbers and convert fractions to decimal equivalents using division.	bar notation rational number repeating decimal terminating decima
	 zero. 7.NS.A.1.A Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. 7.NS.A.1.B Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 	SELF # SOCIAL ##CEREMESS	 Lesson 4-2 I can find the additive inverse of a rational number and add rational numbers. Lesson 4-3 I can subtract rational numbers by adding the additive inverse. Lesson 4-4 I can use the rules of multiplying integers to multiply rational numbers. Lesson 4-5 Lesson 4-4 I can use the rules of dividing integers to divide rational numbers. 	









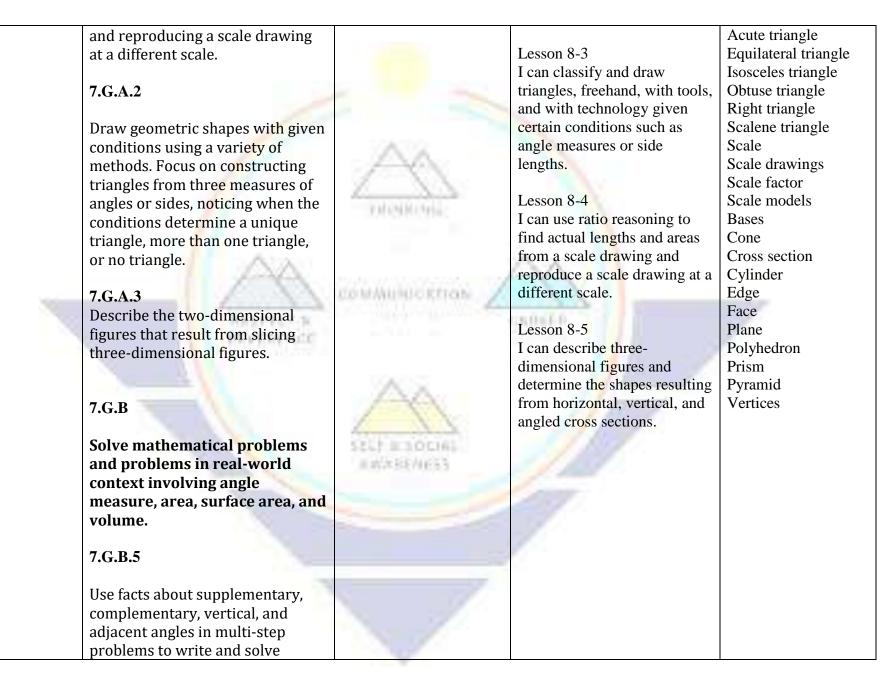
Module 5	Module 5	Module 5	Module 5	Module 5
Simplify Algebraic	Simplify Algebraic Expression	Simplify Algebraic	Simplify Algebraic	Simplify Algebraic
Expression Embedded: ALEKS online support by Glencoe	 7.EE. A Use properties of operations to generate equivalent expressions. 7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.A.2 Rewrite an expression in different forms, and understand the relationship between the different forms and their meanings in a problem context. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05." 	Expression Why is it beneficial to rewrite expressions in different forms?	 Expression Lesson 5-1 I can simplify algebraic expressions by identifying and combining like terms. Lesson 5-2 I can use different methods to add linear expressions. Lesson 5-3 I can use different methods to subtract linear expressions. Lesson 5-4 I can use GCF to factor linear expressions. Lesson 5-5 I can combine operations to simplify linear expressions. 	Expression Coefficient Constant Like terms Simplest form Term Linear expression Nonlinear expression Factor Factored form Greatest common factor Monomial

Module 6	Module 6	Module 6	Module 6	Module 6
Write and Solve	Write and Solve Equations	Write and Solve	Write and Solve Equations	Write and Solve
Equations		Equations	_	Equations
	7.NS.A	-	Lesson 6-1	
Embedded:	Apply and extend previous	How can equations be	I can write one-step equations	One-step equation
ALEKS online	understanding of operations	used to solve everyday	involving integers and	Addition Property of
support by Glencoe	with fractions to add, subtract,	problems?	rational numbers and use	Equality
	multiply, and divide rational	100	inverse operations to solve the	Defining a variable
	numbers except division by	1	equations.	Division Property of
	zero.	Fall Child Children		Equality
			Lesson 6-2	Equation
			I can use inverse operations to	Equivalent equations
	7.NS.A.3		solve two-step equations of	Inverse Property of
	Solve mathematical problems and	Section and sector 10	the form $px + q = r$.	Equality Multiplication
20	problems in real-world context	The average with the second se	Lesson 6-3	Property of Equality
	involving the four operations with	all a second second	I can write two-step equations	Solution
	rational numbers. Computations with rational numbers extend the		of the form $px + q = r$ and	Subtraction Property
			use inverse operations to	of Equality
	rules for manipulating fractions to complex fractions where $a/b \div c/d$	2040.5	solve the equations.	Two-step equation
	when <i>a,b,c,</i> and <i>d</i> are all integers	AA	2000	Distributive Property
	and b,c , and $d \neq 0$.		Lesson 6-4	1 5
	and b,c , and $a \neq 0$.	SELF BIDOCI61	I can write two-step equations	
	7.EE.B	# #1/# \$18/16(5.5.5	of the form $p(x + q) = r$.	
	Solve mathematical problems		1.000	
	and problems in real-world		100	
	context using numerical and			
	algebraic expressions and		Lesson 6-5	
	equations.		I can write two-step equations	
			of the form $p(x+q) = r$ and	
	2	S (7)	use inverse operations to	
	7.EE.B.4.A		solve the equations.	
	Use variables to represent			
	quantities in mathematical			

Module 7 Write and Solve Inequalities	Module 7 Write and Solve Inequalities	Third QuarterModule 7Write and SolveInequalities	Module 7 Write and Solve Inequalities	Module 7 Write and Solve Inequalities
	problems and problems in real- world context, and construct simple equations and inequalities to solve problems. a. Solve word problems leading to equations of the form $px+q = r$ and p(x+q) = r, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. b. Solve word problems leading to inequalities of the form $px+q > r$ or px+q < r, where p , q , and r are rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	THOSE OF A		

ALEKS online	7.EE.B	How are solutions to	Lesson 7-1	Addition Property of
support by Glencoe	Solve mathematical problems	inequalities different	I can use inverse operations to	Inequality
	and problems in real-world	from solutions to	solve one-step addition and	Inequality
	context using numerical and	equations?	subtraction inequalities.	Subtraction Property
	algebraic expressions and	-		of Inequality
	equations.			One-Step Addition
		A 2	Lesson 7-2	and Subtraction
			I can write one-step addition	Inequalities
	7.EE.B.4		and subtraction inequalities	Multiplication
		Fall (Male Article	from real-world situations and	Property of Inequality
	Use variables to represent	CONSTRUCTION.	use inverse operations to	Division Property of
	quantities in mathematical		solve inequalities.	Inequality
	problems and problems in real-		Lesson 7-3	One-Step
	world context, and construct	man and a second second second	I can use inverse operations to	Multiplication and
	simple equations and inequalities	COMMUNICATION /	solve one-step multiplication	Division Inequalities
	to solve problems.		and division inequalities with	with Positive
	a. Solve word problems leading to		positive coefficients.	Coefficients
	equations of the form $px+q = r$ and			One-Step
			Lesson 7-4	Multiplication and
	p(x+q) = r, where p , q , and r are	10 ×	I can use inverse operations to	Division Inequalities
	specific rational numbers. Solve	1-1-1-1	solve one-step multiplication	with Negative
	equations of these forms fluently.	Z N N	and division inequalities with	Coefficients
	Compare an algebraic solution to	SELF # 3 OCIAL	negative coefficients.	Two-Step Inequality
	an arithmetic solution, identifying	and a set of the site of the s		
	the sequence of the operations		Lesson 7-5	
	used in each approach.		I can write one-step	
	b. Solve word problems leading to		multiplication and division	
	inequalities of the form $px+q > r$ or		from real-world situations and	
	px+q < r, where p , q , and r are		use inverse operations to	
	rational numbers. Graph the		solve the inequalities.	
	solution set of the inequality and	5 7 1		
	interpret it in the context of the		Lesson 7-6	
	problem.		I can write two-step	
			inequalities from real-world	
			situations and use inverse	

	7.EE.B.4.B		operations to solve the inequalities.	
	Use variables to represent quantities in mathematical problems and problems in real- world context, and construct simple equations and inequalities to solve problems. b. Solve word problems leading to inequalities of the form <i>px+q > r</i> or <i>px+q < r</i> , where <i>p</i> , <i>q</i> , and <i>r</i> are rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	COMMUNICATION		
Module 8 Geometric Figures	Module 8 Geometric Figur <mark>es</mark>	Module 8 Geo <mark>metric Fig</mark> ures	Module 8 Geometric Figures	Module 8 Geometric Figures
Embedded: ALEKS online support by Glencoe	7.G.A. Draw, construct, and describe geometrical figures, and describe the relationships between them.	How does geometry help to describe objects?	Lesson 8-1 I can identify vertical and adjacent angles, and use them to write and solve equations to find the unknown angle measures.	Acute angle Adjacent angle Congruent Obtuse angle Right angle Straight angle
	7.G.A.1 Solve problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing		Lesson 8-2 I can identify complementary and supplementary angles, and use them to write and solve equations to find the unknown measures	Vertex Vertical angles Zero angle Complementary angles Supplementary angles



	simple equations for an unknown angle in a figure.			
		Fourth Quarter		l .
Module 9 Measure Figures	Module 9 Measure Figures	Module 9 Measure Figures	Module 9 Measure Figures	Module 9 Measure Figures
Embedded: ALEKS online support by Glencoe	 7.G.B Solve mathematical problems and problems in real-world context involving angle measure, area, surface area, and volume. 7.G.B.4 Understand and use the formulas for the area and circumference of a circle to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. 7.G.B.6 Solve mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Solve mathematical problems in real- 	How can we measure objects to solve problems?	Lesson 9-1 I can find the circumference of circles, given the radius or diameter, using the formulas for the circumference of a circle, and find the radius or diameter of a circle, given its circumference. Lesson 9-2 I can find the areas of circles, given the radius or diameter, using the formula for the area of a circle. Lesson 9-3 I can find the areas of composite figures by decomposing the figures into known shapes, and then adding the areas of those shapes. Lesson 9-4 I can find volumes of prisms and pyramids by using	Center Circe Circumference Diameter Pi Radius Area Semicircle Composite figure Cubic units Pyramid Rectangular prism Triangular prism Volume Face Lateral face Regular pyramid Slant height Surface area

	world context involving volume and surface area of three- dimensional objects composed of cubes and right prisms	тисяночи	formulas for volume of prisms and pyramids. Lesson 9-5 I can find the surface areas of solids by relating the nets of those solids to the formulas for surface area. Lesson 9-6 I can find volumes and surface areas of composite figures by decomposing the figures into common solids and using the formulas for volume and surface area of those solids.	
Module 10 Probability	Module 10 Probability	Module 10 Probability	Module 10 Probability	Module 10 Probability
Embedded: ALEKS online support by Glencoe	7.SP.C Investigate chance processes and develop, use and evaluate probability models.	How can probability be used to predict future events?	Lesson 10-1 I can solve problems that classify the likelihood of simple events. Lesson 10-2 I can find the relative	Event Likelihood Outcome Experimental probability Probability Probability
	7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers		frequency of simple events and compare the relative frequency to experimental probability.	experiment Relative frequency Relative frequency table Simple event

indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

7.SP.C.6

Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

7.SP.C.7

Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy.

a. Develop a uniform probability model by assigning equal probability to all outcomes, and



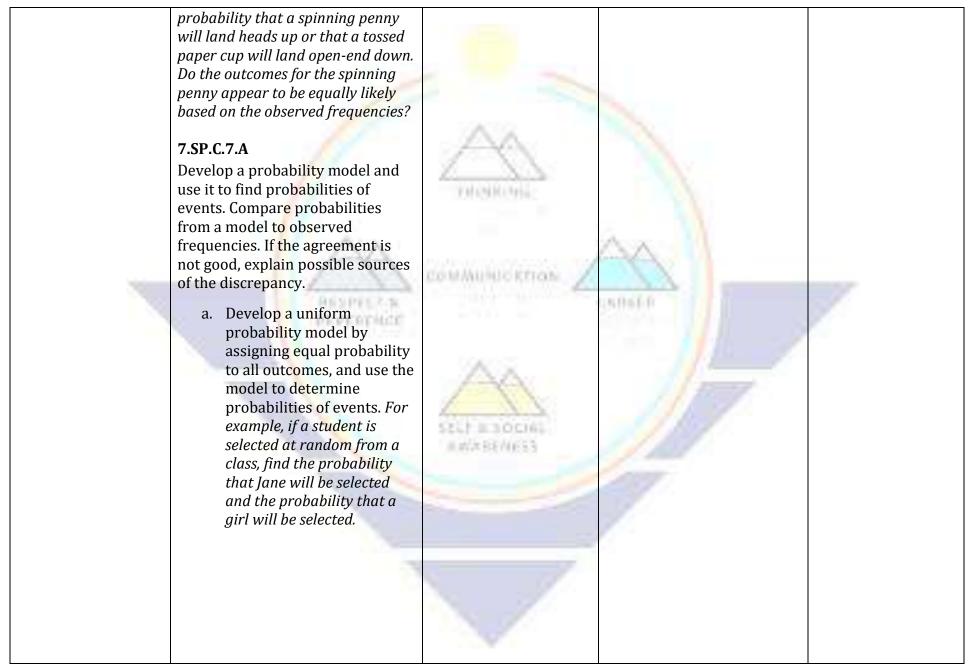


Lesson 10-3 I can solve problems involving theoretical probability of simple events and their complements.

Lesson 10-4 I can solve problems that compare probabilities and relative frequencies of simple events.

Lesson 10-5 I can solve problems involving the probability of compound events. Lesson 10-6 I can solve problems by simulating compound probability events. Complementary event Sample space Theoretical probability Uniform probability model Compound event Theoretical probability of a compound event Tree diagram Simulation





Module 11	Module 11	Module 11	Module 11	Module 11
Sampling and	Sampling and Statistics	Sampling and Statistics	Sampling and Statistics	Sampling and
Statistics				Statistics
	7.SP.A	How can you use a		
Embedded:		sample to gain	Lesson 11-1	Biased sample
ALEKS online	Use random sampling to draw	information about a	I can identify samples as	Convenience sample
support by Glencoe	inferences about a population.	population?	biased or unbiased and	Inferences
			determine whether inferences	Invalid inference
		1	from samples are valid.	Population
		P M CHIMAN AND		Sample
	7.SP.A.1	CONSTRUCTION.	Lesson 11-2	Simple random
	Understand tha <mark>t</mark> statistics can be		I can make predictions based	sample
	used to gain in <mark>fo</mark> rmation about a		on data gathered using a valid	Statistics
	population by examining a sample	0.0000000000000000000000000000000000000	sampling method.	Stratified random
100	of the population; generalizations	COMMUNICRITAN /		sample
	about a population from a sample	Proventing and the second s	Lesson 11-3	Survey
1	are valid only <mark>if the sample is</mark>	and a second second		Systematic random
	representative of that population.		I can understand that taking	sample
	Understand that random sampling	1000 C	multiple samples can help	Unbiased sample
	tends to produce representative	- Alton	gauge the variations in their	Valid inference
	samples and support valid		predictions.	Valid sampling
	inferences.		T 11 1 1 1 1	method
		SELT BISOCIAL	Lesson 11-4	Voluntary response
		※ 約7年10月1日53	I can make comparative	sample
			inferences about two	Variability
			populations based on the data	Asymmetric
	7.SP.A.2		from random samples.	distribution
	Use data from a random sample to		Lesson 11-5	Distribution
	draw inferences about a			Double box plot
	population with an unknown		I can informally assess the degree of visual overlap	Symmetric distribution
	characteristic of interest.	S 6/1	between two distributions.	
	Generate multiple samples (or		between two distributions.	Visual overlap
	simulated samples) of the same			
	size to gauge the variation in			
	estimates or predictions. For			

