Curriculum for Applied and Academic Math 7

Unit:	**1 The Number System (Chapter 3 and 4)**
Big Ideas:	Integers, Absolute Value, Order of Operations with Integers and Rational Numbers
Unit Essential Questions:	What happens when you add, subtract, multiply and divide integers? Rational numbers?

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Integers and Absolute Value **1 Day**	CC.2.1.7.E.1	absolute value graph integer negative integer positive integer	Why is the absolute value of a number positive? Explain your reasoning.	Compare and order integers Find the absolute value of an expression	Guided Practice	Number Line Activity	Number Line Activity Homework
Add Integers **1.5 Day**	CC.2.1.7.E.1	additive inverse opposites	Explain how you know whether a sum is positive, negative, or zero without actually adding.	Add Integers	Launch the Lesson Integer Flow Chart	Integer Flow Chart	"Got it" Homework Practice Skills
Subtract Integers **1.5 Day**	CC.2.1.7.E.1		If x and y are positive integers, is x − y always positive? Explain.	Subtract Integers Find distances on the number line	Guided Practice Word Problems Guided Quizizz	Integer Flow Chart Quizizz Whiteboards	Homework Quizizz Chapter Quiz
Multiply Integers **0.5 Day**	CC.2.1.7.E.1		When is the product of two or more integers a positive number?	Multiply Integers Simplify Algebraic Expressions	Guided Practice with Whiteboards Integer Flow Chart 3.4 & 3.5 Word Problems WKSHT Quizizz	Graphic Organizer Whiteboards Workbook Word Problems WKSHT	3.4 & 3.5 WKSHT Quizizz

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Divide Integers **1.5 Day**	CC.2.1.7.E.1		How is dividing integers similar to multiplying integers?	Divide Integers Find the mean (average) of a set of data	Integer Flow Chart Independent Practice 3.4 & 3.5 Word Problems WKSHT	Integer Flow Chart Whiteboards Workbook 3.4 & 3.5 Word Problems WKSHT	Independent Practice 3.4 & 3.5 Word Problems WKSHT
Review, and Test **2 Days**	CC.2.1.7.E.1				Chapter Review WKSHT Independent Pratice Test	Chapter Review Whiteboard	Chapter Review Test
Terminating and Repeating Decimals **1 Day**	CC.2.1.7.E.1	bar notation repeating decimal terminating decimal	How can you write a fraction as a decimal?	Write fractions as terminating or repeating decimals. Write decimals as fractions.	Lesson in textbook Independent Practice Homework	Workbook Whiteboard	Independent Practice
Compare and Order Rational Numbers **4 Days**	CC.2.1.7.E.1	common denominator least common denominator rational number	How can you compare two fractions?	Convert between fractions, decimals, percents. Compare Rational Numbers Order Rational numbers.	FDP Drag and Drop Got it? problems in textbook Quiz Review	FDP Drag and Drop Whiteboards Quiz Review	Independent Practice FDP Drag and Drop Homework Quiz

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Add and Subtract Like Fractions 2 Days	CC.2.1.7.E.1	like fractions	What is a simple rule for adding and subtracting like fractions? How does adding unlike fractions compare to adding like fractions?	Add and subtract rational numbers with common denominators.	Got it examples in book	LCD and Unlike Fractions Worksheet Workbook Skills Practice	Guided Practice "Got it?" Partner Activity Homework
Add and Subtract Unlike Fractions	CC.2.1.7.E.1	unlike fractions	How do you add or subtract fractions when the denominator is not the same?	Add and subtract rational numbers with different denominators.	Guided Practice Practice at the board	White Board	Guided Practice Homework
Add and Subtract Mixed Numbers 1 Day	CC.2.1.7.E.1		How can you subtract mixed numbers when the fraction in the first mixed number is less than the fraction in the second mixed number?	Add and subtract mixed numbers.	Lesson 4 & 5 Word Problems WKSHT Partner Practice	Lesson 4 and 5 Word Problems Worksheet	Answer Sheet

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Multiply Fractions 1 Day	CC.2.1.7.E.1		How is the process of multiplying fractions different from the process of adding fractions?	Multiply and divide rational numbers (fractions and mixed numbers)	Guided Practice Independent Practice Homework	White Boards Workbook	Homework
Divide Fractions 1 Day	CC.2.1.7.E.1		How is dividing fractions related to multiplying fractions?		Guided Practice Independent Practice Homework	White Boards Workbook	Homework
Review/Test 3 Days	CC.2.1.7.E.1		How do you add, subtract, multiply, divide rational numbers?		Partner Review Test Independent Review WKSHT Test	Partner Review WKSHT, Independent review WKSHT, Test	Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments

Unit:	**2 Expressions and Equations** (Chapter 5 and 6)						
Big Ideas:	Distributive Property, Linear Expressions, Solving One- and Two-Step Equations and Inequalities						
Unit Essential Questions:	How can you use numbers and symbols to represent mathematical ideas? What does it mean to say two quantities are equal?						
Concept & Pacing	**New Emphasis (Pa Core Standard)**	**Key Vocabulary**	**Essential Questions**	**Competencies (Skills, knowledge, abilities)**	**Mini-Lessons/ Activities**	**Instructional Materials**	**Assessments**
Algebraic Expressions **1 Day**	CC.2.2.7.B.3	algebra algebraic expression coefficient variable	Will the expressions $x - 3$ and $y - 3$ sometimes, always, or never represent the same value?	Evaluate simple expressions	Vocab. Start Up Guided Practice Homework Help ICA	Homework Help	Homework Help Guided Practice
Simplify Algebraic Expressions **1 Day**	CC.2.2.7.B.1	constant like terms Multiplicative Identity simplest form term	Why are the expressions $2(x - 1) + 3(x - 1)$ and $5(x - 1)$ equivalent?	Simplify algebraic expressions by combining like terms	Homework Help Practice at the Board Key Strategies Sheet	Key Strategies Sheet Colored Pencils Highlighters	On your own practice. Homework

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
The Distributive Property **2 Days**	CC.2.2.7.B.1	define a variable Distributive Property equivalent expressions	How is the formula for the perimeter of a rectangle an application of the Distributive Property?	Apply the distributive property to make equivalent expressions	Reference area model (rectangles) Class practice at the board. Algebraic Expressions Independent Practice	Whiteboards Scoot	Independent Practice Quiz
Subtract Linear Expressions **1.5 Days**	CC.2.2.7.B.3	linear expression	How can you use the additive inverse to help you subtract linear expressions?	simplify algebraic expressions using subtraction	Homework Help Whiteboards.	Whiteboards.	ICA on whiteboards. Homework.
Add Linear Expressions **1.5 Days**	CC.2.2.7.B.3	linear expression	How is adding linear expressions similar to simplifying expressions?	simplify algebraic expressions using addition	Homework Help Whiteboards.	Whiteboards	Whiteboards
Factor Linear Expressions **1.5 Days**	CC.2.2.7.B.1	factor factored form monomial	How is the GCF used to factor expressions?	factor monomials using the GCF	GCF Review Investigative learning with whiteboards. Guided Practice Homework	Guided Notes Whiteboards	Guided Practice Investigative learning Homework
Scoot/Review/Test **3 Days**					Scoot-Simplifying Algebraic Expressions Review Test	Scoot Cards Review Test	Review Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Solve One-Step Addition and Subtraction Equations **1 Day**	CC.2.2.7.B.3	Addition Property of Equality equation equivalent equation solution Subtraction Property of Equality	What are two methods for solving a real-world problem that can be represented by an equation?	Solve one step equations using addition and subtraction	"Got it?" Activity Guided Practice in workbooks. Homework One Step Kuta Review WKSHT	"Got it?" Workbook One Step Kuta Review WKSHT	"Got it?" Homework One Step Kuta Review WKSHT
Multiplication and Division Equations **1 Day**	CC.2.2.7.B.3	coefficient Division Property of Equality Multiplication Property of Equality	How is the process for solving multiplication and division one-step equations like solving one-step addition and subtraction equations?	solve one step equations using multiplication and division	Quick Check Investigative Learning Activity Homework	Quick Check Workbooks. One Step Kuta Review WKSHT	Quick Check Homework One Step Kuta Review WKSHT
Solve Equations with Rational Coefficients **1 Day**	CC.2.2.7.B.3		What is the process for solving a multiplication equation with a rational coefficient?	Solve one step equations with rational coefficients.	Rational Numbers Review Guided examples. Think Pair Share Activity	Review Think Pair Share	Review T.P.S. Homework
Solve Two-Step Equations **4 Days**	CC.2.2.7.B.3	two-step equation	Why is it important to perform identical operations on each side of the equals sign when solving equations? What is the difference between $px + q = r$ and $p(x + q) = r$?	Solve two step equations using addition, subtraction, multiplication, division, and the distributive property.	Guided Practice Homework Quiz Review Google Slide (Scoot Algebraic Expressions) Quiz	Scoot Activity Cards Google Sheets	Guided practice Scoot Quiz

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Solve Inequalities by Addition or Subtraction **1.5 Day**	CC.2.2.7.B.3	Addition Property of Inequality inequality Subtraction Property of Inequality	When would you use addition or subtraction to solve an inequality?	Solve inequalities using addition and subtraction. Graph the solutions.	Graphing Inequalities Review WKSHT Guided Notes Homework	Review Guided Notes	Guided Notes Homework
Solve Inequalities by Multiplication or Division **1 Day**	CC.2.2.7.B.3	Division Property of Inequality Multiplication Property of Inequality	When do you not reverse the inequality symbol when solving an inequality?	Solve inequalities using multiplication and division. Graph the solutions.	Guided Notes Investigate Graphing with negative coefficients. Homework	Whiteboards Workbooks.	Investigative Activity Homework
Solve Two-Step Inequalities **2 Days**	CC.2.2.7.B.3	two-step inequality	How are the inequalities and solutions of $2x + 8 > 18$ and $2x + 8 \leq 18$ similar and how are they different?	Solve two step inequalities.	Practice Skills. Mystery Phrase Activity #2	Practice Skills Mystery Phrase Activity #2	Practice Skills Homework Mystery Phrase Activity #2
Review/Test **2 Days**					Chapter 6 Review Google Slide Test	Review Google Slide Test	Review Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments

Unit:	**3 Ratios and Proportional Relationships (Chapter 1 and 2)**
Big Ideas:	Rates, Proportional Relationships, Slope, Percents, Application of Percents
Unit Essential Questions:	How can you show that two objects are proportional? How can percent help you understand situations involving money?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials	Assessments
Rates **1.5 Day**	CC.2.1.7.D.1	rate unit rate	How is a rate a measure of one quantity per unit of another quantity?	FInd the unit rate. Use unit rate to determine least price.	Pulse Rate Video/Activity Vocabulary Start Up Guided Practice Independent Practice	Pulse Rate Video Workbooks	Independent Practice Homework Pulse Rate Activity
Complex Fractions and Unit Rates **1.5 Day**	CC.2.1.7.D.1	complex fraction	What is a complex fraction?	SImplify complex fractions to find the unit rate.	Guided Examples. Skills Practice practice at the board	Skills Practice Workbook whiteboards	Skills Practice Homework
Convert Unit Rates **2 Days**	CC.2.1.7.D.1	dimensional analysis unit ratio	Why does the ratio have a value of one?	Convert rates using unit rates and dimensional analysis.	Quick Check Guided Examples Guided Practice Skills Practice Extra Practice	Quick Check Workbook Skills Practice Extra Practice Whiteboards	Quick Check Guided Practice Homework

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Proportional Relationships 1 Day	CC2.1.7.D.1	cross product	How can proportions solve problems involving two equivalent rates?	Use proportions to solve problems	Guided Practice whiteboards Proportions Word Problems Google Sheet	whiteboards devices	whiteboard practice HW PWP G.S.
Scale Drawings 1 Day	CC2.2.3.7.A.2	Scale drawing scale factor	How can we use proportions to solve problems involving scale drawings?	Use proportions to solve problems involving scale.	Guided Notes Problem Solving Practice HW	Problem Solving Practice WKSHT	Problem Solving Practice WKSHT
Graphing on the coordinate plane 2 day	CC.2.1.7.D.1	quadrants coordinate ordered pair origin x axis y axis	How can we identify a proportional relationship by graphing?	graph ordered pairs to create a picture	Graphing Project	Graphing Project Colored pencils markers	Graphing project
Proportional and Non-proportional Relationships 1 Day	CC.2.1.7.D.1	equivalent ratios non-proportional proportional	What makes two quantities proportional?	Determine if two quantities are proportional. Write an equation for two proportional relationships.	“Real World Link” Quick Check Guided Examples. Homework Skills Practice	Workbook Skills Practice	T.O.D. Quick Check Homework

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Graph Proportional Relationships 2 Days	CC.2.1.7.D.1	coordinate plane ordered pair origin quadrants *x*-axis *x*-coordinate *y*-axis *y*-coordinate	How does graphing relationships help you determine whether the relationship is proportional or not?	Identify points on a line and explain what that point represents in context of the problem. Determine if two quantities are proportional using graphs. Write the equation of a line based on its graph.	Interpreting Points WKSHT Independent Practice Worksheet	Interpreting Points WKSHT Workbook	IP Worksheet
Constant Rate of Change 1 Day	CC.2.1.7.D.1	rate of change constant rate of change	How can you find the unit rate from a line on a graph that goes through the origin?	FInd the constant rate of change	Practice Skills Study Island Assignment Homework	Practice Skills Study Island	Practice Skills Study Island Homework
Direct Variation 1 Day	CC.2.1.7.D.1	constant of variation direct variation constant of proportionality	How can you determine if a linear function is a direct variation from an equation? a table? a graph?	Determine if two quantities form a direct variation	Guided notes Independent practice HW	Guided Notes Independent Practice HW	Independent Practice HW
Review/Test 3 Days					Prop. vs Non Drag and Drop PSSA Practice Packet Review Test	workbook notes	Prop. vs Non Drag and Drop PSSA Practice Packet Review TEst

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Percent of a Number **1 Day**	CC.2.1.7.D.1		How do you find the percent of a number?	Find the percent of a number	Vocab. Start Up Guided Examples. Guided Practice at the board	Workbook whiteboards	Guided Practice Create an Example Homework
The Percent Proportion **1 Day**	CC.2.1.7.D.1	percent proportion	How can you use the percent proportion to solve real-world problems?	Solve problems involving percents using percent proportion.	Review writing percents as fractions. Guided Practice at Board. Homework	Whiteboards Workbooks	Guided Practice Homework
The Percent Equation **1.5 Day**	CC.2.1.7.D.1	percent equation	When might it be easier to use the percent equation rather than the percent proportion?	Solve Problems involving percents using the percent equation.	Guided practice Independent Practice HW	Workbook Whiteboard	Independent Practice Homework
Percent of Change **1.5 Days**	CC.2.1.7.D.1	percent error percent of change percent of decrease percent of increase	How can two amounts of change be the same but the percents of change be different?	Calculate the percent of change. Calculate the percent of error for real world problems.	Guided practice Independent practice HW	Workbook	Guided Practice Independent Practice
Sales Tax, Tips, and Markups **1.5 Days**	CC.2.1.7.D.1	gratuity markup sales tax selling price tip	Which method of finding the total price of a bill with a 20% tip do you prefer?	Calculate the cost of an item including sales tax, tip, or markup.	“Got it” Think Pair Share Homework Help TOD	Homework Help Workbook	TOD Homework Help Homework

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Discount **1.5 Day**	CC.2.1.7.D.1	discount markdown	What are two methods you could use to find the sale price of an item that is discounted by a percent?	Calculate the cost of an item including discount. Calculate the total cost of an item using a discount and tax.	ICA Skills Practice Partners Extra Practice Independent Quick Check	Skills Practice Extra Practice Workbook Quick Check	ICA Quick Check Homework
Simple Interest **2 Days**	CC.2.1.7.D.1	principal simple interest	How can you use a formula to find simple interest?	Find the simple interest for a loan. Find the total cost of a loan including interest.	Homework Help “Got it?” Simple Interest ICA	Workbook Simple Interest ICA	Homework Help Homework Activity
Review and Test **2 Days**					Study Island Assignment Test	Study Island Test	Study Island Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments

Unit:	**4 Geometry** (Chapter 7 and 8)
Big Ideas:	Properties of Angles and Triangles, Scale Drawings, Area of Circles and Composite Figures, Volume and Surface Area of Pyramids, Prisms, and Composite Figures
Unit Essential Questions:	How does geometry help us describe real-world objects? How do measurements help you describe the real-world objects?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials	Assessments
Classify Angles 1.5 Day	CC.2.3.7.A.1	acute angle angles congruent obtuse angle right angle straight angle vertex vertical angles	What are the differences between vertical and adjacent angles?	Identify acute, right, straight, and vertical angles.	Vocabulary Classifying Angles Note Card Classifying Angles Quick HW	Notecard Workbook Highlighters/colored pencils Scoot Cards and Answer Sheet	Partner Activity Homework
Complementary and Supplementary Angles 1.5 Day	CC.2.3.7.A.1	angles supplementary angles	How are vertical, adjacent, complementary, and supplementary angles related?	Identify pairs of complementary and supplementary angles. Classify angles, write an equation to solve for missing parts using angle	Classify Angles Notecard Classifying Comp. Supp. Scoot Activity	Notecard Workbook Highlighters/colored pencils Scoot Cards and Answer Sheet	Flip Book Partner Activity

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
				relationships.			
Triangles 2 Day	CC.2.3.7.A.2	acute triangle adjacent congruent segments triangle triangle obtuse triangle right triangle scalene triangle	How can triangles be classified?	Identify and classify triangles based on their sides and angle measures. Write an equation to solve for a variable using triangle angle relationship. Use the triangle inequality theorem to determine if three lengths form a triangle	Reference Notecard. HW Triangle & Angles ICA Lesson 3 More About Triangles WKSHT	Notecard highlighters & colored pencils Triangles & Angles ICA L3 More about Triangles WKSHT	Triangles & Angles ICA L3 ICA
Parallel Lines: Angle Relationships. 3 Days	C.C.2.3.7.A.1 C.C.2.3.7.A.2	Parallel lines Transversal Vertical angles Alternate exterior angles Alternate interior angles Same-side exterior angles Same-side interior angles.	How can angle relationships in parallel lines solve real-world problems?	Identify angle pairs as vertical, supplementary, alternate interior, alternate exterior, same side interior, same side exterior. Write an equation to solve for a missing variable using the angle relationship.	Create Parallel Lines Foldable. Identify Angle Relationship Plicker Activity Parallel Lines ICA1 Parallel Lines ICA2	Foldable Plickers ICA 1 ICA 2	Plickers ICA 1 ICA 2

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Review/Test 2Days					Review Test	Review Test	Review Test
Circumferenc e/ Area of Circles 2 Days	CC.2.3.7.A.1	center circle circumference diameter pi radius semicircle	What is the relationship between the circumference and diameter of a circle?	Find the circumference of circles. Solve problems involving circumference	Formula Sheet Review. Review Area and Perimeter of all shapes on Grade 7 Formula Sheet. Area Review Practice Sheet	Formula Sheet Practice Sheet Highlighters Colored Pencils.	Practice Sheet
Area of Composite Figures 1 Day	CC.2.3.7.A.1	composite figure	How can you tell if an answer is exact or an approximation?	Find the area of composite figures. Solve problems involving the area of composite figures.	Guided Practice 8.3 ICA Worksheet	Highlighters Colored Pencils Guided Practice Sheet Study Island	Guided Practice Homework
Volume of Prisms 1 Day	CC.2.3.7.A.1 CC.2.3.A.2	volume	How is finding the volume of a rectangular prism and the volume of a triangular prism alike? different?	Find the volume of prisms.	Guided Practice Homework	Highlighters Colored Pencils Guided Practice Sheet	Guided Practice Homework
Surface Area of Prisms 1 Day	CC.2.3.7.A.1	surface area	Why is the surface area of a three-dimensional figure measured in square units instead of cubic units?	Find the surface area of prisms	Guided Practice 8.6 Surface Area worksheet	Highlighters Colored Pencils 8.6 Worksheet	8.6 Worksheet

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Volume and Surface Area of Composite Figures 1 days	CC.2.3.7.A.1		How do the previous lessons in this chapter help you find the surface area and volume of a composite figure?	Find the volume of composite figures. Find the surface area of composite figures.	8.8 Surface Area Worksheet 8.8 Surface Area and Volume Worksheet	Highlighters Colored Pencils Guided Practice Sheets	Guided Practice Homework
Cross Sections/Nets 1 Day	CC.2.3.7.A.2	cross section	How does drawing the different views of a three-dimensional figure help you have a better understanding of the figure?	Determine the shape being formed by a cross section. Find the area/perimeter/circumference of the net.	PDE Cross Sections Worksheet	Cross Sections WKSHT Colored Pencils Highlighters	Cross Sections Worksheet
Review/Test 2 Days					Review Test	Review Test	Review Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments

Unit:	**5 Introduction to Sampling and Inference** (Chapter 9 and 10)
Big Ideas:	Statistics and Probability
Unit Essential Questions:	How are statistics used to draw inferences about and compare populations?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials	Assessments
Probability of Simple Events 1 Day	CC.2.4.7.B.1	complementary events outcome random probability simple event	What is the relationship between the probability of an event and its complement?	Compute the probability of an event happening. Compute the probability of an event not happening.	Guided Notes Independent Practice HW	Workbook 9.1 Skills Practice	Independent Practice 9.1 Skills Practice
Theoretical and Experimental Probability 1 Day	C.C.2.4.7.B.3	experimental probability theoretical probability uniform probability model	How can I compare and contrast the theoretical and experimental probabilities in the following real-world problem involving choosing socks from a drawer? *Jasmine's sock drawer has 8 white pairs, 5 black pairs, 7 navy pairs, 3 khaki pairs, and 12 other pairs. She*	Compute the theoretical and experimental probability of an event happening. Use the theoretical/experimental probability to make predictions.	Guided Notes Drag and Drop Activity	Guided Notes Drag and Drop Activity	Guided Notes Drag and Drop Activity

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
			randomly selected a pair of socks 20 times and selected a navy pair 6 times.				
Compound Probability 1 day	CC.2.4.7.B.3	sample space tree diagram compound event Fundamental Counting principle	How can you predict the outcome of future events?	Find the probability of compound events Use multiplication to count the number of outcomes and find probabilities	Guided Practice Independent Practice Compound Probability HW Worksheet	HW Worksheet Whiteboards	Independent Practice Compound Probability HW
Independent Events 1 day	CC.2.4.7.B.3	independent events dependent events	How can replacing an object (like marble in a bag after choosing one) change or affect the probability on the next turn?	Find the probability of independent events.	Independent Events WKSHT	Independent Events WKSHT	Independent Events WKSHT
Using Sampling to Predict 1 Day	C.C.2.4.7.B.1	biased sample convenience sample population random sample simple random sample stratified random sample systematic random sample unbiased sample	Why is sampling an important part of the manufacturing process, and how can you illustrate your answer with an unbiased and a biased sampling method you can use to check the quality of DVDs?	Determine whether sampling methods are valid and produce unbiased results.	Valid Sampling Flow Chart Guided Examples Plicker Activity	Flow Chart Plicker Activity	Homework Plicker Activity

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
		voluntary response sample					
Measures of Center **1 Day**	C.C.2.4.7.B.2	measures of center statistics	Using the Internet to find some real-world data, which measure of center best represents the data you found, and what is that measure of center?	Use mean, median, and mode as measures of center. Choose appropriate measure of center to describe data..	Guided Lessons HW	Guided Notes WKSHT	Guided Notes WKSHT/HW
Measures of Variability **1 Day**	C.C.2.4.7.B.2	first quartile interquartile range measures of variability outliers quartiles range third quartile	How do outliers affect the calculation of measures of variability in a data set?	Find the measures of variability. Use measures of variability to describe and interpret data.	Guided Lessons HW	Guided Notes WKSHT	Guided Notes WKSHT/HW
Mean Absolute Deviation **1 Day**	C.C.2.4.7.B.2	mean absolute deviation	Why might the mean absolute deviation be useful when considering two real-world distributions with the same mean and median?	Find and compare mean absolute deviation of data sets	Guided Lessons HW	Guided Notes WKSHT	Guided Notes WKSHT/HW

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Compare Populations 1 Day	C.C.2.4.7.B.2	box plot double box plot	If Marcia recorded the daily temperatures for two cities for 30 days, for which city can you more accurately predict the daily temperature if the two populations have similar centers, but City A has a greater variability than City B? Explain.	Compare two populations using measure of center and variability	Guided Lessons HW	Guided Notes WKSHT	Guided Notes WKSHT/HW
Review/ Test 3 Days					Review Scoot Test	Review Scoot Test	Review Scoot Test

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments

Unit:	**6 Powers and Roots** (Insert Accelerated Material)
Big Ideas:	Operations with Rational Numbers
Unit Essential Questions:	How can you use numbers and symbols to represent mathematical ideas? What happens when you add, subtract, multiply, and divide integers? Rational numbers? Why is it useful to write numbers in different ways? How can you identify and represent proportional relationships?

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials	Assessments
Powers and Exponents 1.5 Day	C.C.2.2.8.B.1	base exponent power	What are some advantages to using exponents to represent numeric values?	Write and evaluate expressions containing exponents	Guided Examples and Practice	Skills Practice	Homework Skills Practice
Negative Exponents 1.5 Day	C.C.2.2.8.B.1	negative exponent	What is the difference between the expressions $(-3)^4$ and 3^{-4}?	Write expressions using negative exponents. Evaluate numerical expressions containing negative exponents.	Guided Examples Guided Practice Independent Practice Exponent Foldable	White Board Foldable	Independent Practice
Multiplying and Dividing	C.C.2.2.8.B.1	monomial	How can you use division of powers to divide large	Multiply and divide monomials	Discovery Activity Guided Practice	Skills Practice Whiteboard Foldable	Independent Practice Skills Practice

Concept & Pacing	PA Core Standard	Key Vocabulary	Essential Questions	Competencies (Skills, knowledge, abilities)	Mini-Lessons/ Activities	Instructional Materials (In addition to Textbook and Calculator)	Assessments
Monomials **2 Days**			numbers?		Independent Practice Skills Practice		
Power to Power Rule **2 days**	C.C.2.2.8.B.1		How do you simplify monomials when a power is raised to another power?	Simplify power of powers.	Foldable Independent Practice Day 1 Worksheet Day 2 Worksheet	Foldable Day 1 Worksheet Day 2 Worksheet	Day 1 Worksheet Day 2 Worksheet
Scientific Notation **2 Days**	C.C.2.2.8.B.1	scientific notation standard form	Why is the conclusion that 7.8×10^3 is greater than 6.5×10^2 because $7.8 > 6.5$ incorrect?	Write expressions in standard form and scientific notation. Compare expressions in standard and scientific notation.	Guided Examples Guided Practice Independent Practice	Whiteboard Skills Practice	Homework Skills Practice
Square Roots and Cube Roots	C.C.2.2.8.B.1	square root perfect squares radical sign cube roots perfect cubes	How does writing numbers in different ways help to make it easier to compute with very large or very small numbers?	Find and estimate square roots and cube roots	Guided Examples Guided Practice	Skills Practice	Homework Skills Practice
Review and Test **2 Days**					Review Test	Review Test	Review Test