CRAWFORDSVILLE COMMUNITY SCHOOL CORPORATION

GRADE LEVEL: SEVENTH **SUBJECT: MATH** **DATE: 2018-2019**

GRADING PERIOD: QUARTER 1

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
NUMBER SENSE					
• Prime Factorization • Whole Numbers	**7.NS.1**: Find the prime factorization of whole numbers and write the results using exponents. **PS.2:** Reason abstractly and quantitatively.	• Find prime factorization. • Write using exponents. • Make sense of quantities and their relationships	Write the prime factorization of each number using exponents. a) 48 b) 75 c) 200	• Prime factoriza-tion	Additional
• Squares • Square Roots • Perfect Square	**7.NS.2**: Understand the inverse relationship between squaring and finding the square root of a perfect square integer. Find square roots of perfect square integers.	• Explain the difference between squaring and finding the square root. • Find square roots of perfect squares.	Find the value of each expression. a) Square root of 49 b) Square root of 144 **CFA.Q1.E – wk 8** **CSA.Q1.C – wk 9**	• Square • Square root • Perfect squares	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
NUMBER SENSE					
• Rational Numbers • Irrational Numbers • Number Line	**7.NS.3**: Know there are rational and irrational numbers. Identify, compare, and order rational and common irrational numbers (√2, √3, √5, ∏) and plot them on a number line. **PS.2:** Reason abstractly and quantitatively.	• Identify, compare, and order rational and irrational numbers. • Plot rational and irrational numbers on a number line. • Make sense of quantities and their relationships.	List the numbers from least to greatest and plot them on a number line. ⅝, -2.2, -⅞, ∏ **CFA.Q1.E – wk 8** **CSA.Q1.C – wk 9**	• Rational numbers • Irrational numbers • Repeating decimal • Terminating decimal	Critical
COMPUTATION					
• Absolute Value • Additive Inverse • Addition • Integers	**7.C.1**: 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 contexts. **PS 4:** Model with mathematics.	• Show that a number and its additive inverse has a sum of zero. • Add integers. • Solve real-world problems. • Describe real world contexts which involve the sum of rational numbers. • Solve problems arising in everyday life.	Represent each sum on a number line. a) -4+7 b) 3+(-2) c) -2.5+(-2.5) d) ⅞+⅝ **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**	• Additive inverse • Integers	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
COMPUTATION					
• Rational Numbers • Subtraction • Integers • Distance on number line	**7.C.2**: 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 contexts. **PS.6:** Attend to precision.	• Show the distance between two rational numbers is the absolute value of their difference. • Subtract integers. • Apply to real-world contexts. • Calculate accurately.	Trey owes his dad $1.75. He owes his sister $2.50. Represent the total amount Trey owes on a number line. **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**	• Rational Numbers	Important
• Integers • Multiplication • Integers • Distributive Property	**7.C.3**: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. **PS.6:** Attend to precision.	• Multiply integers. • Simplify expressions using the distributive property • Calculate accurately.	Which expressions are equivalent to $-4(3 + -6)$? a) 4(3)+4(-6) b) -4(3)+ -4(-6) c) 4(-3)+4(6) d) -4(-3)+ -4(6) **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**		Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
COMPUTATION					
• Division • Integers	**7.C.4**: Understand that integers can be divided, provided that the divisor is not zero, and that every quotient of integers (with non-zero divisor) is a rational number. Understand that if p and q are integers, then –(p/q) = (–p)/q = p/(–q). **PS.6:** Attend to precision.	• Divide integers. • Calculate accurately.	Which expressions are equivalent to -(20/4)? a) 20/-4 b) -20/-4 c) -20/4 d) 20/4 **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**	• Reciprocal	Important
• Algorithmic Approach	**7.C.7**: Compute with rational numbers fluently using a standard algorithmic approach.	• Add, subtract, multiply, and divide rational numbers. • Add, subtract, multiply, and divide fractions.	Find the value of each expression. a) 7(-8) b) -61 – 20 c) -98÷6 d) -5.2×8×⅝ Whole: **CFA.Q1.A – wk 2** **CSA.Q1.A – wk 4** Decimals: **CFA.Q1.B – wk 3** **CSA.Q1.A – wk 4** Fractions: **CFA.Q1.C – wk 5**		Important

			CSA.Q1.B – wk 6 Integers: **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**		
CONTENT	**STANDARD INDICATORS**	**SKILLS**	**ASSESSMENT**	**VOCABULARY**	**ILEARN**
COMPUTATION					
• Real World Problems • Operations	**7.C.8**: Solve real-world problems with rational numbers by using one or two operations. **PS.4:** Model with mathematics.	• Solve real-world problems using more than one operation. • Solve problems arising in everyday life.	Larry bought 3 pounds of apples and one bag of oranges at the store. The apples cost $1.75 per pound and the bag of oranges cost $2.99. What was the total cost of Larry's purchase? Do not include tax. Whole: **CFA.Q1.A – wk 2** **CSA.Q1.A – wk 4** Decimals: **CFA.Q1.B – wk 3** **CSA.Q1.A – wk 4** Fractions: **CFA.Q1.C – wk 5** **CSA.Q1.bB– wk 6** Integers: **CFA.Q1.D – wk 7** **CSA.Q1.C – wk 9**		Critical

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GRADING PERIOD: QUARTER 2

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
COMPUTATION					
• Unit Rates • Ratios • Length • Area • Perimeter	**7.C.5**: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.	• Compute unit rates involving ratios of: – Length – Perimeter – Area	Michelle walks ⅝ mile every ⅞ hour. What is the unit rate in which Michele walks in miles per hour? **CFA.Q2.D – wk 17** **CSA.Q2.B – wk 19**	• Ratio • Unit rate	Critical
ALGEBRA AND FUNCTIONS					
• Properties • Linear Expressions • Equivalent Expression	**7.AF.1**: Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring (e.g., given 2x - 10, create an equivalent expression 2(x - 5)). Justify each step in the process.	• Apply the properties of operations. • Create equivalent expressions. • Justify each step.	Which expressions are equivalent to 6m + 18? a) 6(m+18) b) 6(m+3) c) 6+m+18 5m+18+m **CFA.Q2.A – wk 10** **CSA.Q2.A – wk 15**	• Algebraic expression • Numerical expression • Order of operations • Identity • Inverse • Commutative • Associative • Distributive	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
ALGEBRA AND FUNCTIONS					
	7.AF.1: (cont.) **PS.3:** Construct viable arguments and critique the reasoning of others **PS.7:** Look for and make use of structure.	• Justify conclusions. • Use properties of operation and equality.			Critical
• Equations • Rational Numbers • Combining Like Terms • Solving Two-Step Equations • Solving Multi-Step Equations • Solving Equations with Variables on Both Sides	**7.AF.2**: Solve equations of the form px + q= r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. **PS.1**: Make sense of problems and persevere in solving them. **PS.4:** Model with mathematics.	• Solve 1 and 2 step equations with rational numbers. • Solve real-world problems with equations. • Plan a path to a solution. • Solve problems arising in everyday life.	Solve each equation. a) 4(x-3)=32 b) ⅝c+5=10.5 c) -3x – 4=44 **CFA.Q2.B – wk 12** **CSA.Q2.A – wk 15**	• Equation • Coefficient • Constant • Term • Like terms • Evaluate • Variable • Equivalent expression	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
ALGEBRA AND FUNCTIONS					
• Solving Inequalities by Adding or Subtracting • Solving Inequalities by Multiplying or Dividing • Solving Multi-Step Inequalities	**7.AF.3**: Solve inequalities of the form px +q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem. **PS.1**: Make sense of problems and persevere in solving them.	• Solve real world problems involving inequalities. • Construct line graphs to represent a situation • Plan a path to a solution.	Amanda has $45 to spend on flowers. She buys some roses for a total of $19 and will spend the rest on lily flowers. Each lily flower costs $3. Write an inequality that can be used to determine the number of lily flowers Amanda can buy. How many lily flowers can Amanda buy? **CFA.Q2.C – wk 14** **CSA.Q2.A – wk 15**	• Inequality	Critical
• Slope • Vertical Change • Horizontal Change • Rates of Change	**7.AF.4**: Define slope as vertical change for each unit of horizontal change and recognize that a constant rate of change or constant slope describes a linear function. Identify and describe situations with constant or varying rates of change.	• Identify slopes and rates of change as linear functions. • Identify the difference between constant and varying rates of change.	**CFA.Q2.E – wk 18** **CSA.Q2.B – wk 19**	• Slope • Rate of change • Constant • Varying	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
ALGEBRA AND FUNCTIONS					
• Coordinate Plane • Slope	**7.AF.5**: Graph a line given its slope and a point on the line. Find the slope of a line given its graph. **PS.6:** Attend to precision.	• Use slope and a point to graph a line on the coordinate plane. • Find the slope of a line from the line on a coordinate plane. • Use clear definitions.	Graph the line that contains the point (-3,5) and has a slope of -3/4. **CFA.Q2.E – wk 18** **CSA.Q2.B – wk 19**	• Coordinate plane • Ordered pair • Origin • Quadrant	Critical
• Proportional Relationship • Equivalent Ratios • Coordinate Plane	**7.AF.6**: 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).	• Identify proportional relationships on a coordinate plane. • Interpret graphs. • Sketch graphs.	On his way to the library Jeff runs two blocks and then walks three more blocks. Sketch a graph to show the distance Jeff traveled over time. **CFA.Q2.E – wk 18** **CSA.Q2.B – wk 19**	• Proportional relationship • Equivalent ratios	Important

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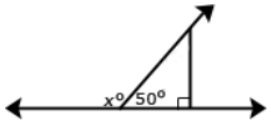
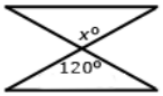
GRADING PERIOD: QUARTER 3

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
COMPUTATION					
• Percent of Change and Discounts • Applications of Percents • Percent Proportion/Percent Equation • Simple Interest • Proportions • Conversions Within and Between Measurement Systems	**7.C.6:** Use proportional relationships to solve ratio and percent problems with multiple operations, such as the following: simple interest, tax, markups, markdowns, gratuities, commissions, fees, conversions within and across measurement systems, percent increase and decrease, and percent error. **PS.1:** Make sense of problems and persevere in solving them. **PS.4:** Model with mathematics. **PS.6:** Attend to precision.	• Solve ratio and percent problems. • Construct proportions. • Use formulas to evaluate situations. • Identify and write proportions. • Solve proportions. • Write equivalent ratios. • Analyze real-world situations involving ratios and percents accurately. • Plan a path to a solution. • Solve problems arising in everyday life. • Calculate accurately.	Last year, Kim earned $8 per hour at her job. This year, Kim earns $10 per hour at her job. What is the percent of increase, in dollars earned per hour, from last year to this year? Sandra drove 126.2 miles in 2 hours at a constant speed. Use a proportion to find out how long it would take her to drive 189.3 miles at the same speed. Convert 5 cm to inches. **CFA.Q3.A – wk 21** **CSA.Q3.A – wk 22**	• Commission • Commission rate • Interest • Percent of change • Percent of decrease • Percent of increase • Principle • Rate of interest • Simple interest • Proportion • Cross product • Capacity • Customary system • Metric system	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
ALGEBRA AND FUNCTIONS					
• Unit Rate • Constant of Proportionality • Direct Variation	**7.AF.7**: Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.	• Identify and use direct variation rates in tables, graphs, and equations.	Ray paid $26.25 for 7.5 gallons of gasoline. What is the unit rate of gasoline in dollars per gallon? **CFA.Q3.B – wk 25** **CSA.Q3.B - wk 26**	• Constant of Proportionality • Direct Variation	Critical
• Proportional Relationship • Direct Variation	**7.AF.8**: Explain what the coordinates of a point on the graph of a proportional relationship mean in terms of the situation, with special attention to the points (0, 0) and (1,r), where r is the unit rate.	• Identify and use direct variation rates in relation to the origin (0,0) and another point on the graph.	**CFA.Q3.B – wk 25**		Additional

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
ALGEBRA AND FUNCTIONS					
• Real-World Situations • Equations • Graphs • Proportional Relationships • Linear Function • Slope	**7.AF.9**: Identify real-world and other mathematical situations that involve proportional relationships. Write equations and draw graphs to represent proportional relationships and recognize that these situations are described by a linear function in the form y = mx, where the unit rate, m, is the slope of the line. **PS.4:** Model with mathematics.	• Write, draw, and solve proportional relationships that represent a given real-world situation. • Write equations to describe a situation. • Solve problems using representations.	**CFA.Q3.B – wk 25** **CSA.Q3.B - wk 26**	• Linear Function • Slope	Critical
GEOMETRY AND MEASUREMENT					
• Draw Triangles Given Various Conditions • Classifying Angles	**7.GM.1**: Draw triangles (freehand, with ruler and protractor, and using technology) with given conditions from three measures of angles or sides, and notice when the conditions determine a unique triangle, more than one triangle, or no triangle. **PS.5:** Use appropriate tools strategically.	• Draw triangles with given conditions. • Explain if given conditions for a triangle will produce a unique triangle, more than one triangle, or no triangle. • Use pencil/paper, concrete models, protractor, calculator, geometric software.	Construct a triangle with angles measuring 30°, 45°, and 105°. Draw a triangle with sides that are 13 cm, 5 cm, and 6 cm? Draw a triangle with all three angles measuring 60 degrees. Is this a unique triangle? Why or why not?	• Acute angle • Obtuse angle • Right angle	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
GEOMETRY AND MEASUREMENT					
	7.GM.1: (cont.) **PS.7:** Look for and make use of structure.	• Classify geometric shapes based on their attributes.	**CFA.Q3.C – wk 27** **CSA.Q3.C – wk 28**		
• Similar Figures	**7.GM.2**: Identify and describe similarity relationships of polygons including the angle-angle criterion for similar triangles, and solve problems involving similarity.	• Find measures of corresponding angles. • Determine if corresponding sides are equivalent ratios. • Solve real-world problems involving similarity to find missing measurements using indirect measurement.	**CFA.Q3.C – wk 27** **CSA.Q3.C – wk 28**	• Similar figures • Corresponding angles and sides	Important
• Scale Drawings • Scale Models	**7.GM.3:** Solve real-world and other mathematical problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing. Create a scale drawing by using proportional reasoning.	• Use scale drawings and scale models. • Compute lengths and areas from a scale drawing. • Solve real-world problems.	**CFA.Q3.C – wk 27** **CSA.Q3.C – wk 28**	• Scale drawings • Scale models • Scale • Scale factor	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
GEOMETRY AND MEASUREMENT					
• Line and Angle Relationships • Angles in Polygons	**7.GM.4**: Solve real-world and other mathematical problems that involve vertical, adjacent, complementary, and supplementary angles. **PS.4:** Model with mathematics.	• Solve real world problems involving following angles: – Vertical – Adjacent – Complementary Supplementary • Solve problems arising in everyday life. • Solve problems using representations.	In each diagram, what is the measure, in degrees, of angle x?   **CFA.Q3.C – wk 27** **CSA.Q3.C – wk 28**	• Congruent • Comple-mentary angle • Supple-mentary angle • Adjacent angles • Vertical angles	Important

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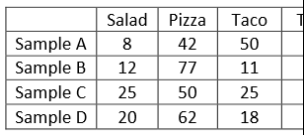
GRADING PERIOD: QUARTER 4

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
GEOMETRY AND MEASUREMENT					
• Perimeter and Circumference • Area of Circles • Area of Irregular Figures • Introductions to Three-Dimensional Figures • Volume of Prisms and Cylinders • Surface Area of Prisms and Cylinders	**7.GM.5:** Understand the formulas for area and circumference of a circle and use them to solve real-world and other mathematical problems; give an informal derivation of the relationship between circumference and area of a circle. **PS.4:** Model with mathematics. **PS.6:** Attend to precision. **PS.5**: Use appropriate tools strategically.	• Use formulas to solve problems involving area and circumference of a circle. • Model geometric figures. • Use diagrams, two-way tables, graphs, flowcharts, formulas to map relationships between quantities. • Calculate accurately. • Use paper/pencil to construct models.	Ed has swimming pool in the shape of a cylinder. The bottom of the pool is circular with a radius of 15 feet. What is the length, in feet, of the distance around the bottom of the swimming pool? What is the area of the bottom of the swimming pool? **CFA.Q4.A – wk 30** **CSA.Q4.A – wk 31**	• Area • Circumfer-ence • Cylinder • Irregular figure • Perimeter • Prism • Pyramid • Surface Area • Volume	Critical

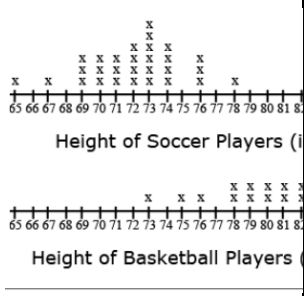
CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
GEOMETRY AND MEASUREMENT					
• Real-World Problems with Prisms and Cylinders	**7.GM.6:** Solve real-world and other mathematical problems involving volume of cylinders and three-dimensional objects composed of right rectangular prisms. **PS.4:** Model with mathematics. **PS.6:** Attend to precision.	• Solve real world problems involving volume of cylinders and 3 dimensional objects. • Solve problems using representations. • Perform accurate calculations. • Specify units of measure.	Becky needs to transfer liquid to a vase using a cylindrical container with a radius of 5 centimeters and a height of 10 centimeters. **CFA.Q4.A – wk 30** **CSA.Q4.A – wk 31**		Important
• Surface area of prisms and cylinders using their nets.	**7.GM.7:** Construct nets for right rectangular prisms and cylinders and use the nets to compute the surface area; apply this technique to solve real-world and other mathematical problems. **PS.4:** Model with mathematics	• Create visual representations of models involving surface area of rectangular prisms and cylinders. • Solve real world problems. • Use diagrams, two-way tables, graphs, flowcharts, formulas to map relationships between quantities.	a) Joe is wrapping a gift in a box in the shape of a right rectangular prism. The dimensions of the box are 5 inches by 6 inches by 2 inches. Construct a net of this prism and determine the minimum amount of wrapping paper needed to completely wrap the gift. **CFA.Q4.A – wk 30** **CSA.Q4.A – wk 31**	• Net • Surface area	Additional

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANALYSIS, STATISTICS AND PROBABILITY					
• Populations and Random Samples	**7.DSP.1**: Understand that statistics can be used to gain information about a population by examining a sample of the population and generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. **PS.1:** Make sense of problems and persevere in solving them. **PS.2:** Reason abstractly and quantitatively. **PS.4:** Model with mathematics.	• Explain information & generalizations about a population by examining a representative sample. • Explain why random samples often produce representative samples. • Support valid inferences. • Analyze relationships. • Make sense of quantities and their relationships. • Analyze relationships and draw conclusions.	The student council has been asked to conduct a survey of the student body to determine the students' lunch preferences. They have determined two ways to do the survey. The two methods are listed below. Which survey option should the student council use and why? Assign a unique number to each student in the school and use a random generator to select 30 numbers from this list. Have students associated with the selected numbers complete the survey. Have the first 30 students who enter the cafeteria complete the survey.	• Statistics • Survey	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Inferences and Predictions of Random Samples	**7.DSP.2**: Use data from a random sample to draw inferences about a population. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. **PS.1:** Make sense of problems and persevere in solving them. **PS.2:** Reason abstractly and quantitatively. **PS.4:** Model with mathematics.	• Use random data samples to draw inferences about a population. • Compare results from several samples to gauge variation in predications about the population. • Analyze relationships. • Make sense of quantities and their relationships. • Analyze relationships and draw conclusions.	The data from four random samples of 100 students regarding their lunch preferences are given below.  How might the cafeteria use this information to plan their meals?	• Population • Sample • Random sample • Prediction	Important

	Salad	Pizza	Taco	T
Sample A	8	42	50	
Sample B	12	77	11	
Sample C	25	50	25	
Sample D	20	62	18	

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Mean, Median Mode, and Range • Mean Absolute Deviation	**7.DSP.3**: Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations. **PS.4:** Model with mathematics. **PS.5:** Use appropriate tools strategically. **PS.6:** Attend to precision.	• Calculate measures of center and measures of spread. • Use measures of center and spread to compare two populations. • Analyze relationships and draw conclusions. • Use technological tools to deepen understanding. • Calculate accurately.	The two data sets below depict random samples of housing prices sold in two towns. Based on this data, which measure of center will provide the most accurate estimation of housing prices in these towns? Explain your reasoning. Town A / Town B 1,200,000 / 5,000,000 281,000 / 250,000 265,500 / 250,000 265,000 / 200,000 242,000 / 190,000 211,000 / 160,000 140,000 / 154,000 **CFA.Q4.B – wk 32** **CSA.Q4.B – wk 33**	• Inference • Interquartile range • Mean • Mean absolute deviation • Median • Mode • Range	Critical

CONTENT	**STANDARD INDICATORS**	**SKILLS**	**ASSESSMENT**	**VOCABULARY**	**ILEARN**
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Line Plot • Box-and-Whisker Plot	**7.DSP.4:** Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median. **PS.3:** Construct viable arguments and critique the reasoning of others. **PS.4:** Model with mathematics.	• Observations about visual overlap of two line and/or box plots. • Explain how outliers added to a data set may affect the mean and/or media. • Reason inductively about data and make arguments within context of data. • Analyze relationships and draw conclusions.	The line plots represent the heights, in inches, of players on a soccer team and basketball team. What observations can you make from this data?  **CFA.Q4.B – wk 32** **CSA.Q4.B – wk 33**	• Box-and-whisker plot • Line plot • Lower quartile • Upper quartile • Interquartile range • Outlier	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Probability	**7.DSP.5**: Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that 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. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. **PS.1:** Make sense of problems and persevere in solving them. **PS.6:** Attend to precision.	• Identify a given probability as: • Impossible • Unlikely • Neither unlikely nor likely • Likely • Certain. • Analyze relationships. • Use correct mathematical terms and language.	a) If the weatherman predicts that there is a 20% chance of rain, would this be a good day to plan a picnic? What is the probability that it will not rain? b) A container contains 2 gray marbles, 1 white marble, and 4 black marbles. Without looking, if you choose a marble from the container, will the probability be closer to 0 or to 1 that you will select a white marble? A gray marble? A black marble? Justify each of your predictions. **CFA.Q4.C – wk 34** **CSA.Q4.C – wk 35**	• Probability	Critical

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Chance Events • Relative Frequency	**7.DSP.6**: Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its relative frequency from a large sample. **PS.4:** Model with mathematics. **PS.5:** Use appropriate tools strategically.	• Collect data from a probability experiment. • Find the probability of a chance event. • Observe and compare the relative frequency of a chance event to a larger sample. • Analyze relationships and draw conclusions. • Use technology for representation, reasoning, communication and problem solving.	Activity: Students can collect data using physical objects, a graphing calculator, or a web-based simulation. Students can perform experiments multiple times, combine data with other groups, or increase the number of trials in a simulation to look at the long-run relative frequencies. Example: Each group receives a bag that contains 4 green marbles, 6 red marbles, and 10 blue marbles. Each group performs 50 pulls, recording the color of marble drawn and replacing the marble into the bag before the next draw. **CFA.Q4.C – wk 34** **CSA.Q4.C – wk 35**	• Relative frequency	Important

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	ILEARN
DATA ANLYSIS, STATISTICS AND PROBABILITY					
• Probability Models	**7.DSP.7**: Develop probability models that include the sample space and probabilities of outcomes to represent simple events with equally likely outcomes. Predict the approximate relative frequency of the event based on the model. Compare probabilities from the model to observed frequencies; evaluate the level of agreement and explain possible sources of discrepancy. **PS.3:** Construct viable arguments and critique the reasoning of others.	• Create probability models of simple events with equally likely outcomes and predict outcomes. • Compare results of an experiment to the predicted outcomes. • Make conjectures and justify. • Justify conclusions.	Roll a standard six-sided die 10 times. After each roll, record whether a five was rolled or not. What proportion of the 10 rolls resulted in a five? Combine your results with those of your classmates. What proportion of all the rolls in the class resulted in a five? Make a list of all the outcomes when rolling the die. What proportion of the 6 outcomes result in a five? Is this close to the proportion in part A and part B? Suppose you rolled the die thousands of times. **CFA.Q4.C – wk 34** **CSA.Q4.C – wk 35**	• Discrepancy • Prediction • Sample space	Important