DRAFT 6th Grade Pacing Guide by Standards and Trimesters

Strand	CST Test Emphasis	Standard	Harcourt Chapter Reference	Lesson Reference	Sample Release Questions
Number Sense	Number Sense Cluster 2 Operations and Problem Solving with Fractions 10/65 questions or 15%.	1.1 Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line	**Ch 1, 8, 11**		▪ Which point shows the location of 3/2 on the number line? (illustration with no fractions) ▪ Which list of numbers is ordered from leas to greatest?
Number Sense		2.1 Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.	**Ch 9, 10**		▪ What is 10/11 x 11/12 ?
Number Sense		2.2 Explain the meaning of multiplication and division of positive fractions and perform the calculations (e.g., 5/8 ÷ 15/16 = 5/8 x 16/15 = 2/3).	**Ch 10**		▪
Number Sense		2.3 Solve addition, subtraction, multiplication and division problems, including those arising in concrete situations, that use positive and negative integers and combinations of these operations.	**Ch 12, 13**		▪ A group of hikers climbed from Salt Flats (elevation 155 feet) to Talon Bluff (elevation 620 feet). What is the difference in elevation between Talon Bluff and Salt Flats? ▪ 12 ÷ -3
Number Sense		2.4 Determine the least common multiple and the greatest common divisor of whole numbers, use them to solve problems with fractions (e.g., to find a common denominator to add two fractions or to find the reduced form for a fraction).	**Ch 7, 8, 8, 9, 10**		• 3/8 + 1/12 =

Algebra and Functions	19/65 questions or 29%.	1.1 Write and solve one-step linear equations in one variable.	**Ch 1, 4**		• What value of k makes the following equation true? $k \div 3 = 36$ • The Sojourn family went on a vacation. They started with $200. If they spent $150 each day, which expression represents how much money they had after x days?
Algebra and Functions		1.2 Write and evaluate an algebraic expression for a given situation, using up two three variables.	**Ch 1**		• A telephone company charges $0.05 per minute for local calls and $0.12 oer minute for long-distance calls. Which expression gives the total cost in dollars for x minutes of local calls and y minutes of long-distance calls?
Algebra and Functions		1.3 Apply algebraic order of operations and the commutative, associative, and distributive properties to evaluate expressions; and justify each step in the process.	**Ch 2, 13**		• The steps Quentin took to evaluate the expression $3m - 3 \div 3$ when $m = 8$ are shown (illustration) What should Quentin have done differently in order to evaluate the expression?
Algebra and Functions		1.4 Solve problems manually by using the correct order of operations or by using a scientific calculator.	**Ch 13**		
Performance Task 1st Trimester	*Should focus on application of number sense and algebraic thinking in a word problem situation involving mathematical reasoning and communication.*				

Number Sense	Number Sense Cluster 1 Ratios, Proportions, Percentages, and Negative Fractions 15/65 questions or 23%	1.2 Interpret and use ratios in different contexts (e.g., batting averages, miles per hour) to show the relative sizes of two quantities, using appropriate notations (*a/b, a* to *b, a:b)*	**Ch 20**		▪ The weekly milk order for Tranquility Inn includes 40 gallons of low-fat milk and 15 gallons of chocolate milk. What is the ratio of the number of low-fat gallons to chocolate gallons in the Tranquility Inn's weekly mild order?
Number Sense		1.3 Use proportions to solve problems (e.g., determine the value of *N* if 4/7 = *N*/21, find the length of a side of a polygon similar to a known polygon). Use cross multiplication as a method for solving such problems, understanding it as the multiplication of both sides of an equation by a multiplicative inverse.	**Ch 20**		▪ If *ABC* is similar to *DEF*. What is the length of *DF*? ~~(tri~~angles shown) ▪ If a farmer harvested 14, 000 pounds of almonds from an 8-acre orchard. Which proportion could be solved to find *x*, the expected harvest from a 30-acre orchard?
Number Sense		1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.	**Ch 21**		▪ The vice president of sales took a client out to lunch. If the lunch was $44 and she gave a 20% tip, how much money did she spend on lunch?
Algebra and Functions	19/65 questions or 29%.	1.1 Write and solve one-step linear equations in one variable.	**Ch 15, 16, 30**		• What value of *k* makes the following equation true? $k \div 3 = 36$ The Sojourn family went on a vacation. They started with $200. If they spent $150 each day, which expression represents how much money they had after *x* days?

Algebra and Functions	19/65 questions or 29%.	1.2 Write and evaluate an algebraic expression for a given situation, using up two three variables.	**Ch 14**		• A telephone company charges $0.05 per minute for local calls and $0.12 oer minute for long-distance calls. Which expression gives the total cost in dollars for *x* minutes of local calls and *y* minutes of long-distance calls?
Algebra and Functions		1.3 Apply algebraic order of operations and the commutative, associative, and distributive properties to evaluate expressions; and justify each step in the process.	**Ch 14**		• The steps Quentin took to evaluate the expression $3m - 3 \div 3$ when $m = 8$ are shown (illustration) What should Quentin have done differently in order to evaluate the expression?
Algebra and Functions		1.4 Solve problems manually by using the correct order of operations or by using a scientific calculator.	**Ch 14**		
Algebra and Functions		2.2 Demonstrate an understanding that *rate* is a measure of one q2uantit per unit value of another quantity.	**Ch 20**		• It takes a machine 12 minutes to fill 200 bottles of soda.. At this rate, how many minutes will it take the machine to fill 500 bottles of soda? • Trish's resting heart rate is 50 beats per minute. For every minute she exercises, her heart rate increase 5 beats per minute. How long will it take her to reach a hear rate of 120 beats per minute?
Algebra and Functions		2.3 Solve problems involving rates, average speed, distance and time.	**Ch 6, 16**		• Jerry read a 200-page book in 10 hours. At that rate, how long will it take him to read a 320-page book?

Statistics, Data Analysis, and Probability	11/65 questions or 17%.	1.1 Compute the range, mean. Median, and mode of data sets.	**Ch. 5**		
Statistics, Data Analysis, and Probability		1.2 Understand how additional data added to data sets may affect these computations of measures of central tendency.	**Ch. 5**		• Abe found the mean and median of this list of numbers. *1, 3, 3* If the number *6* were added to the list, then…
Statistics, Data Analysis, and Probability		1.3 Understand how the inclusion or exclusion of outliers affects measures of central tendency.	**Ch. 5**		
Statistics, Data Analysis, and Probability		1.4 Know why a specific measure of central tendency (mean, median, mode) provides the most useful information in a given context.	**Ch. 5**		
Statistics, Data Analysis, and Probability		2.1 Compare different samples of a population with the data from the entire population and identify a situation in which it makes sense to use a sample.	**Ch. 5**		
Statistics, Data Analysis, and Probability		2.2 Identify different ways of selecting a sample (e.g., convenience sampling, , responses to a survey, random sampling) and which method makes a sample more representative for a population.	**Ch. 5**		

Statistics, Data Analysis, and Probability	11/65 questions or 17%.	2.3 Analyze data displays and explain why the way in which the question was asked might have influenced the results obtained and why the way in which the results were displayed might have influenced the conclusions reached.	**Ch. 5**		
Statistics, Data Analysis, and Probability		2.4 Identify data that represent sampling errors and explain why the sample (and the display) might be biased.			
Statistics, Data Analysis, and Probability		2.5 Identify claims based on statistical data and , in simple cases, evaluate the validity of the claims.	**Ch. 5**		
Statistics, Data Analysis, and Probability		3.1 Represent all possible outcome for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome).	**Ch. 23**		• Ms. Hatley is going to choose one person from each of the two lists below to represent the class in student council. (Lists) Which set shows *all* the possible choices of two people.
Statistics, Data Analysis, and Probability		3.2 Use data to estimate the probability of future events (e.g., batting averages or number of accidents per miles driven).	**Ch. 22**		

Statistics, Data Analysis, and Probability		3.3 Represent probabilities as ratios, proportions, decimals between 0 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable; know that if *P* is the probability of an event, 1-*P* is the probability of the even not occurring.	**Ch. 22, 23**		• The table shows how many T-shirts of each color Paul has in his closet. (Table) If Paul chooses a T-shirt without looking, what is the probability that it will be blue? (%) • Mason has 10 black, 12 white, and 3 brown pairs of socks in one drawer. What is the probability that, without looking, Mason will pick a brown pair of socks from the drawer? (%)
Statistics, Data Analysis, and Probability		3.4 Understand that the probability of either of two disjoint events occurring is the sum of the two individual probabilities and that the probability of one event following another, in independent trials, is the product of the two probabilities.	**Ch. 22, 23**		
Statistics, Data Analysis, and Probability		3.5 Understand the difference between independent and dependent events.	**Ch. 23**		
Performance Task 2nd Trimester	*Should focus on application of statistics, graphing and algebraic thinking in a word problem situation involving mathematical reasoning and communication.*				

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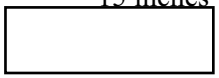
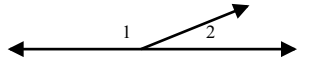
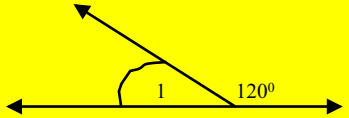
Strand	CST Test Emphasis	Objective	Harcourt Chapter Reference	Lesson Reference	Sample Release Questions
Number Sense	Number Sense Cluster 1 Ratios, Proportions, Percentages, and Negative Fractions 15/65 questions or 23%	1.2 Interpret and use ratios in different contexts (e.g., batting averages, miles per hour) to show the relative sizes of two quantities, using appropriate notations (*a/b, a* to *b, a:b)*	**Ch 27**		• The weekly milk order for Tranquility Inn includes 40 gallons of low-fat milk and 15 gallons of chocolate milk. What is the ratio of the number of low-fat gallons to chocolate gallons in the Tranquility Inn's weekly mild order?
Number Sense		1.3 Use proportions to solve problems (e.g., determine the value of *N* if 4/7 = *N*/21, find the length of a side of a polygon similar to a known polygon). Use cross multiplication as a method for solving such problems, understanding it as the multiplication of both sides of an equation by a multiplicative inverse.	**Ch 24**		• If *ABC* is similar to *DEF*. What is the length of *DF*? ~~(t~~triangles shown) • If a farmer harvested 14, 000 pounds of almonds from an 8-acre orchard. Which proportion could be solved to find *x*, the expected harvest from a 30-acre orchard?
Algebra and Functions	19/65 questions or 29%.	2.1 Convert one unit of measurement to another (e.g., from feet to miles, from centimeters to inches).	**Ch 24**		• How many inches are in 2 ½ feet?
Algebra and Functions		3.1 Use variables in expressions decribing geometric quantities (e.g., *P* = 2*w* + 2*l*, A = ½ *bh*, *C* = π d – the formulas for the perimeter of a rectangle, the area of a triangle, and the circumference of a circle, respectively).	**Ch 25, 26**		• A square with a side of *x* is inside a square with a side of 4, as pictured below. Which expression represents the area of the shaded region in terms of x? 4  x

Algebra and Functions	19/65 questions or 29%.	3.2 Express in symbolic form simple relationships arising from geometry.	**Ch 25, 26**		• The rectangle shown below has length 15 inches and perimeter P inches. Which equation could be used to find the width of the rectangle? • 15 inches 
Measurement and Geometry	10/65 questions or 15%.	1.1 Understand the concept of a constant such as π; know the formulas for the circumference and area of a circle.	**Ch. 25, 26**		• Which equation could be used to find the area in square inches of a circle with a radius of 8 inches? • A Ferris wheel at the local fair has a diamet of 52 meters. Which expression can be used to find its circumference, *C*, in meters?
Measurement and Geometry		1.2 Know common estimates of π (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles; compare with actual measurements.	**Ch. 25, 26**		• The top part of this hat (picture) is shaped like a cylinder with a diameter of 7 inches. Which measure is *closest* to the length of the band that goes around the outside of the hat?
Measurement and Geometry		1.3 Know and use the formulas for the volume of triangular prisms and cylinders I area of base x height) compare these formulas and explain the similarity between them and the formula for the volume of a rectangular solid.	**Ch. 27**		

Measurement and Geometry	10/65 questions or 15%.	2.1 Identify angles as vertical, adjacent, complementary, or supplementary and provide descriptions of these terms.	**Ch. 17**		• Which is a true statement about angles 1 and 2 shown below?  ∠ 1 is complementary to ∠ 2 ∠ 1 is supplementary to ∠ 2 Both angles are obtuse. Both angles are acute.
Measurement and Geometry		2.2 Use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle.	**Ch. 17, 18**		• What is the measure of angle 1 in the figure below? 
Measurement and Geometry		2.3 Draw quadrilaterals and triangles from given information about them (e. g, a quadrilateral having equal sides but not right angles, a right isosceles triangle).	**Ch. 17, 18**		• Which figure is an acute triangle?
STAR Testing					
Solidify fractions, decimals, ratio and proportionality as well as basic computation.					
Performance Task 3rd Trimester	*Should focus on application of measurement and geometry involving mathematical reasoning and communication. – illustrating the concept.*				

*Throughout the year **concept development** should be stressed with emphasis on **mathematical reasoning** and **mathematical communication.***