CCGPS Coordinate Algebra Day 11 Unit 1 Relationships Among Quantities

Name: _____ Date: _____

Unit #1 Study Guide #1

Use the following to review for you test. Work the Practice Problems on a separate sheet of paper.

What you need to know & be able to do	**Things to remember**		
1. Unit Conversions		1. Convert 1500dg to hg.	2. A bowl of cereal weighs 60 oz. How heavy is it in L?
• There are 5280 feet in one mile • There are 0.034 ounces in one milliliter • There are 0.454 kg in one pound • There are 1.6 kilometers in one mile • There are 73 gallons in 2 barrels • There are 1.05 quarts in one liter • There are 4 quarts in one gallon • There are 16 ounces in a pound.		3. Convert 12 kilometers to inches.	4. You are in a car traveling that is traveling at 65 mph. How long will it take to travel to Chattanooga (150 miles away)?
2. Identify Vocabulary	• # of terms • Coefficients • Factors • Constants	5. How many terms are in the expression $12x^3 + 7x^2 – 4x –19$?	6. What are the factors, coefficients, and constants in the expression $20x^4 – 11x +3$?
3. Linear Models	$y = mx + b$ • m – increase or decrease • b – starting point	7. Lucy gets paid $150 a week and $10 for every computer she sells. Write an expression that represents her weekly income.	8. Andy wants to mail a package. It costs $4.99 plus $0.30 for every ounce the package weighs. Write an equation that represents the total cost of shipping the package.
6. Consecutive Integers	Start with x. x + (x+1) + (x+2)+...=	9. 3 consecutive integers add up to 153. Find the three integers.	10. Three ODD integers add up to 381. Find the integers.

7. Averages	• Add the values and x • Divide by the number of numbers • Set equal to the average • Solve for x	11. You are trying to save $20 a week to buy a new CD player. During the last 4 weeks you have saved $35, $15, $10, and $12. How much do you need to save this week to average $20 for the 5 weeks?	12. Currently, you have made a 78, 83, and an 80 on your tests in math. What do you need to make on the next test in order to get an average of an 82?
8. Rectangle – Find length and width	• Draw a picture • Define your ℓ and w • Add all 4 sides • Solve for both variables	13. The width of a rectangle is 11 feet longer than the length. The perimeter of the rectangle is 70 feet. Find the length and the width.	14. The length of a rectangle is nine inches more than the width. The perimeter is 34 inches. Find the length.
9. Solve for 2-variable Equations	ax + by = c • Never move the variable you're solving for.	15. Tony is going to buy fruit for a smoothie. He wants raspberries, r, that are $4 a carton and strawberries, s, that are $2 a carton. Write an equation to represent all the combinations of fruit if Tony has $18 to spend.	16. Using your equation from #15, solve for s, in terms of r, the number of raspberries. 17. If he buys 2 cartons of raspberries, how many strawberries can he buy?
10. Solve for an indicated variable	PEMDAS • Backwards, from the ground up!	18. Solve for x: y = -4x + 16	19. Solve for L: P = 2(L + W)