

Monday, September 10th, 2018

Copy the chart into your cheat book.

<	≤	>	≥
Less than	Less than or equal to	Greater than	Greater than or equal to
Fewer than	At most	More than	At least
	Maximum		Minimum
	No more than		No less than

Jul 31-4:26 PM

Foundations of Algebra Unit 2 - Relationships Among Quantities Date: 2.7 - Quiz Review

Name: \_\_\_\_\_

Unit 2 Quiz Review

1. Given the expression  $-5x^2 - 5x + 6$ , identify the following:

a. Terms:  $5x^2, -5x, 6$  c. Coefficients:  $5, -5$  (ALL)  
 Variables:  $x$  d. Constant:  $6$

Solve the following for x.

2.  $2x - 17 = 3$       3.  $\frac{x}{3} = 5$       4.  $\frac{x-6}{2} = -8$  (2)

5.  $\frac{x}{2} - 4 = 6$       6.  $-12 - 5x = 13$       7.  $-2(3x-5) = 40$   
 $\frac{x}{2} + 4 = 6$   
 $\frac{x}{2} = 2$   
 $x = 4$   
 $x = 30$   
 $-6x + 10 = 40$   
 $-6x = 30$   
 $x = -5$

Equations: Solve for the given variable. Show all of your work!

8. Solve for y,  $3x - 6y = 12$       9. Solve for m,  $4m + 8 = 6n - 8$       10. Solve for y,  $x = \frac{1}{2}(y - 8)$   
 $4m + 8 = 6n - 8$   
 $4m = 6n - 16$   
 $m = \frac{6n - 16}{4}$   
 $m = \frac{3n - 4}{2}$   
 $x = \frac{1}{2}(y - 8)$   
 $2x = y - 8$   
 $y = 2x + 8$

Sep 6-11:00 AM

Foundations of Algebra Unit 2 - Relationships Among Quantities 2.7 - Quiz Review

Solve problems #11 - 15 by using the five-step plan.

11. Write an expression for the statement the cube of number increased by 12.

12. Sabrina wants to have an average of at least 90 on her quizzes. If she took three quizzes and earned a 95, 86 and 82, what is the lowest grade she has to earn on the fourth quiz?  
 $4(95 + 86 + 82 + g) = (90)4$   
 $95 + 86 + 82 + g = 360$   
 $263 + g = 360$   
 $g = 97$

13. A rectangle has a perimeter of 126 inches. The length is 5 inches more than the width. Find the length and width of the rectangle.  
 Perimeter:  $p = 2l + 2w$   
 $126 = 2l + 2w$   
 $63 = l + w$   
 $l = w + 5$   
 $63 = w + 5 + w$   
 $58 = 2w$   
 $w = 29$   
 $l = 34$

14. Destiny is trying to find the sum of 3 consecutive even integers. The sum is 66. Find the 3 numbers.  
 $2n = l$   
 $2n + 2 = w$   
 $2n + 4 = l$   
 $6n = 66$   
 $n = 11$   
 $l = 22$   
 $w = 24$   
 $l = 26$

15. Bob and Sue are going to Willy Wonka World during the 3 day weekend. It costs \$15 to enter the park and take the tour. If every piece of candy that they eat along the way costs them \$0.25, what is an equation that represents how much money Sue will spend?  
 $15 + .25p = \text{cost}$   
 p = piece of candy

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Quiz unit 2 quiz 2

Sep 10-9:07 AM

September 11, 2018

For the expression,  $12x^2 + 15y + 10$ , identify the coefficients, variables, and the terms.  
 C:  $12, 15$       V:  $x, y$       T:  $12x^2, 15y, 10$

Write an algebraic expression to describe the following statement.  
 Nine less a number amounts to twenty.  
 $9 - n = 20$        $n - 9 = 20$        $9 < 20$

What does MI stand for?  
 Mad Integers

MATH INVENTORY!!  
 We are heading to room 1001...

Note:  
 You should continue to work on your study guide for the test  
 Thursday, Sept 13.

Sep 7-3:22 PM

15) Cameron 75  
 tests: 71, 68, 84, g  
 $4(71 + 68 + 84 + g) = (75)4$   
 $71 + 68 + 84 + g = 300$   
 $223 + g = 300$   
 $-223$   
 $g = 77$

17) Sum of a # & 6 is a most 24.  
 $n + 6 \leq 24$

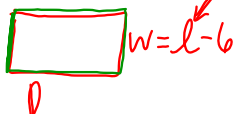
Sep 11-10:02 AM

**Wednesday, September 12th, 2018**

1. Justin wants to have an average of at least 75 on his tests. If he has taken three tests and earned a 71, 68, and 84, what is the lowest grade he can make on the 4<sup>th</sup> test?

$$\frac{68+71+84+x}{4} = 75$$

2. The width of a rectangle is 6 inches less than its length. The perimeter is 44 inches. What is the length and width of the rectangle?



$$44 = l + l - 6 + l + l - 6$$

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Foundations of Algebra Unit 2 - Arithmetic to Algebra Study Guide

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Solve for the indicated variable.**

ACT:  $V = r$   
 M:  $7x + 14y = -21 - 7x$   
 JN:  $V = -2$

Short Answer:

SH: For the expression  $12x^2 + 14x + 10$ , identify the coefficients and the terms.  
 CO: 12, 15, 14, 10  
 V:  $x^2, x, 1$   
 T: 12, 14, 10

JD: April is moving apartments. Her family needs to rent a U-Haul truck to transport their furniture. The rental company charges \$19.99 for the truck. Then, they charge \$0.20 per mile. Write an equation that represents how much it will cost to use the truck where  $x$  = the miles driven. How much will it cost if the family drives it 40 miles?  
 $20x + 19.99 =$   
 $20(40) + 19.99 = 27.99$

JC: The sum of 3 consecutive integers is 75. Write an equation and find the three numbers.  
 $x + x + 1 + x + 2 = 75$   
 $3x + 3 = 75$   
 $3x = 72$   
 $x = 24$

TD: Find the sum of the first 100 integers with the formula.  
 $x + x + 1 + x + 2 = 15$   
 $3x + 3 = 15$   
 $3x = 12$   
 $x = 4$

MP: Bill is buying a rectangular sand box for his son to play in. The length of the sand box is 4 feet longer than the width. He has 20 feet of boards. What are the dimensions of his sand box?  
 $l = 2 + w = 6$   
 $4 + 4w = 20$   
 $4w = 16$   
 $w = 4$

Sep 6-11:01 AM

**Write an algebraic expression to describe the following statement.**

Seven less than a number equals ten. Nine less a number amounts to twenty.

The quotient of a number and seven increased by twice 5. The quantity of six and some number multiplied by five cubed.

**Simplify the Expression.**

5 [2(4x + 3) - (23 - 17)²]

**Solve for the variable. Show your work.**

$12 - 3x = 36$   $10(x - 6) = 40$   $\frac{6}{2} + 6 = 15$

**Solve for the variable. Show your work. Graph the solution set on a number line.**

$5x + 3 \geq 48$   $\frac{1+1}{2} < 6$

**Vocabulary.**

"Like" terms must have the same \_\_\_\_\_ and \_\_\_\_\_.

What does "Inverse Operations" mean? Give an example.

Explain the "Distributive Property".

Identify two differences between equations and inequalities.

Explain the difference between the Area and the Perimeter of a Quadrilateral.

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**Thursday, September 13th, 2018**

Copy the chart into your cheat book.

Consecutive Numbers Chart				
Type of Consecutive Numbers	Examples	Expressions for Terms		
		First	Second	Third
Consecutive Numbers	4, 5, 6 27, 28, 29	$x$	$x + 1$	$x + 2$
Consecutive Even Numbers	8, 10, 12 62, 64, 66	$x$	$x + 2$	$x + 4$
Consecutive Odd Numbers	23, 25, 27 89, 91, 93	$x$	$x + 2$	$x + 4$

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**Friday, September 14th, 2018**

The length of a rectangle is 3 feet longer than its width. The perimeter is 34 feet. What is the length and width of the rectangle?

The sum of a number and 12 is 44. What is the number?

Jul 31-4:26 PM

Foundations of Algebra Unit 2 - Relationships Among Quantities Date: \_\_\_\_\_ Classwork

Name: \_\_\_\_\_

**Day 7 - Writing and Solving Equations w/ Two or More Variables**

**Which Cell Phone Plan is Right for YOU?**

Three customers are looking at cell phone plans:

Customer 1: Linda, a retired math teacher, keeps her phone in the car for emergency use only. Historically, she uses the phone less than 50 minutes each month.

Customer 2: Keshia, a college student, attends school out of state. She uses her phone to call friends and family at home to keep in touch. She uses about 900 minutes each month.

Customer 3: Joseph, a traveling salesman, is gone three to four nights a week. He contacts customers, his home office and family when he is away. He uses about 1,500 minutes each month.

Three cell phone plans are available for these customers.

Plan A: \$30 for the first 500 minutes plus \$20 for each additional minute  
 Plan B: \$40 for the first 700 minutes plus \$30 for each additional minute  
 Plan C: \$15 for each minute

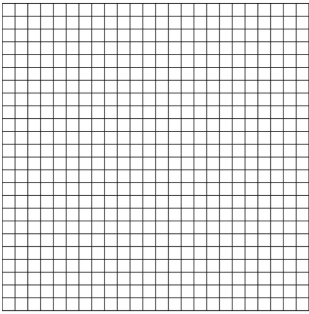
Create a table, graph and equation for each plan. Determine which plan is the best for each customer. Justify your selection.

Plan A		Plan B		Plan C	
Number of Minutes	Cost	Number of Minutes	Cost	Number of Minutes	Cost
0		0		0	
100		100		100	
200		200		200	
300		300		300	
400		400		400	
500		500		500	
600		600		600	
700		700		700	
800		800		800	
900		900		900	
1000		1000		1000	
1100		1100		1100	
1200		1200		1200	
1300		1300		1300	
1400		1400		1400	
1500		1500		1500	
1600		1600		1600	

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Foundations of Algebra Unit 2 – Relationships Among Quantities Classwork

Plot the points for each plan using a different color marker or pencil.



Write an equation for each plan.

Plan A: \_\_\_\_\_

Plan B: \_\_\_\_\_

Plan C: \_\_\_\_\_

Determine which plan is the best for each customer. Justify your selections.

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Foundations of Algebra Unit 2 – Relationships Among Quantities Practice

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Day 7 - Writing and Solving Equations w/ Two or More Variables Practice**

**Car Rental**


You are looking to rent a car to go to Macon and back (210 miles):

- Come and Go Car Rental charges a base rate of \$25 dollars and \$0.20 a mile.
- Quick and Easy Car Rental charges a base rate of \$15 dollars and \$0.25 a mile.

Create a table, graph, and equation for each plan.

Equation for Come and Go: \_\_\_\_\_ Equation for Quick and Easy: \_\_\_\_\_

Miles	Come and Go	Quick and Easy
30		
60		
90		
120		
150		
180		
210		
240		
270		
300		



Determine which plan is the best plan for you. Justify your answer.

\_\_\_\_\_

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Foundations of Algebra Unit 2 – Relationships Among Quantities Practice

**Airline Ticket**

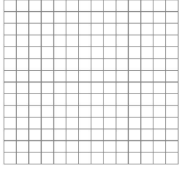
You want to buy a ticket from Atlanta to New York City (you have 4 bags):

- Safeway Airlines charges \$400 per ticket and \$25 per bag.
- Economy Airlines charges \$360 per ticket and \$40 per bag.

Create a table, graph, and equation for each plan.

Equation for Safeway: \_\_\_\_\_ Equation for Economy Airlines: \_\_\_\_\_

Number of Bags	Safeway	Economy
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		



Determine which airline is the best plan for you based on the number of bags you plan on bringing with you. Justify your answer.

\_\_\_\_\_

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