

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

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, $x = \frac{1}{2}(y-8)$ (2)

$4m + 8 = 6n - 8$
 $4m = 6n - 16$
 $m = \frac{6n-16}{4}$
 $m = \frac{3n-4}{2}$

$x = \frac{1}{2}(y-8)$
 $2x = y-8$
 $y = 2x+8$

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: $p = 2l + 2w$
 $126 = 2l + 2w$
 $63 = l + w$
 $l = w + 5$
 $63 = (w+5) + w$
 $63 = 2w + 5$
 $58 = 2w$
 $w = 29$
 $l = 34$

14. Destiny is trying to find the sum of 3 consecutive even integers. The sum is 66. Find the 3 numbers.
 $2n = l$
 $2n + 2 = w$
 $2n + 4 = l$
 $66 = 2n + 2n + 2 + 2n + 4$
 $66 = 6n + 6$
 $60 = 6n$
 $n = 10$
 $l = 20$
 $w = 22$
 $l = 24$

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

Sep 6-11:00 AM

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 -223
 $g = 77$

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

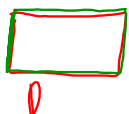
Sep 11-10:02 AM

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 4th 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?



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

Jul 31-4:26 PM

Foundations of Algebra Unit 2 - Arithmetic to Algebra Study Guide

Name: _____ Date: _____

Solve for the indicated variable.

AC For $x = -20$ $7x + 14y = -21$ For D $V = -20$

$$\frac{V}{\pi r^2} = h$$

$$\frac{14y}{14} = \frac{-21 - 7x}{14}$$

$$y = \frac{-21 - 7x}{14}$$

Short Answer:

SH For the expression $12x^2 + 14x + 10$, identify the coefficients, variables, and constant terms.

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?

$$.20x + 19.99 = 27.99$$

$$.20(40) + 19.99 = 27.99$$

OC 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 area of a rectangular box with dimensions 3 ft by 4 ft by 2 ft.

$$V = lwh$$

$$3 \times 4 \times 2 = 24$$

MD 68 is a rectangular sand box for his son to play in. The length is 4 ft more than the width. The sand box has 20 feet of boards. What are the dimensions of his sand box?

$$L = 2 + w = 6$$

$$4w + 20 = 4$$

$$4w = -16$$

$$w = -4$$

Sep 6-11:01 AM

Write an algebraic expression to describe the following statements.

TV Seven less than a number equals ten. $x - 7 = 10$

FR The quotient of a number and 3, plus 2, is 15. $\frac{x}{3} + 2 = 15$

DS The expression $6x + 6 + 23 + 17$ is equivalent to $6x + 5^3$ or $6x + 125$.

Solve for the variable. Show your work.

SB $12 - 3x = 36$ $10(x - 6) = 40$

$$x = -8$$

$$x = 10$$

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

SL $5x + 4 < 24$ $5x + 4 < 6$

$$x < 26$$

Vocabulary:

TD "like" terms must have the same variable power and the same coefficient.

What does "like terms" mean? Give an example.

the opposite $+$ vs $-$ $*$ vs \div

multiply $3x = 12$ $3x \geq 12$

Identify the differences between equations and inequalities.

the symbol, in inequalities if you \times or \div by a negative # the inequality sign will reverse.

Area is on the inside perimeter is on the outside

$$x \leq -4$$

Sep 6-11:02 AM

Permis

$$5[2(4x + 3) - (23 - 17)^2]$$

$$5[2(4x + 3) - (6)^2]$$

$$5[2(4x + 3) - 36]$$

$$5[8x + 6 - 36]$$

$$5[8x - 30]$$

$$40x - 150$$

$$\frac{g}{3} + 6 = 15$$

$$\frac{g}{3} = 9$$

$$g = 27$$

Sep 13-9:05 AM

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	$x + 2$	$x + 4$

Jul 31-4:26 PM

Unit 2 Test 2A

Sep 13-7:46 AM

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?

$l = w + 3$
 $w + 3 + w + w + 3 + w = 34$
 $4w + 6 = 34$
 $-6 \quad -6$
 $4w = 28$
 $\frac{4w}{4} = \frac{28}{4}$
 $w = 7$
 $l = w + 3$
 $l = 7 + 3$
 $l = 10$

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

$x + 12 = 44$
 $-12 \quad -12$
 $x = 32$

Jul 31-4:26 PM

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

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 30 minutes each month.

Customer 2: Keisha, 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 100 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. Which plan is the best for each customer. Justify your selection.

Number of Minutes	Cost	Number of Minutes	Cost	Number of Minutes	Cost
0	30	0	40	0	0
100	30	100	40	100	15
200	30	200	40	200	30
300	30	300	40	300	45
400	30	400	40	400	60
500	30	500	40	500	75
600	50	600	70	600	90
700	70	700	100	700	105
800	90	800	130	800	120
900	110	900	160	900	135
1000	130	1000	190	1000	150
1100	150	1100	220	1100	165
1200	170	1200	250	1200	180
1300	190	1300	280	1300	195
1400	210	1400	310	1400	210
1500	230	1500	340	1500	225
1600	250	1600	370	1600	240

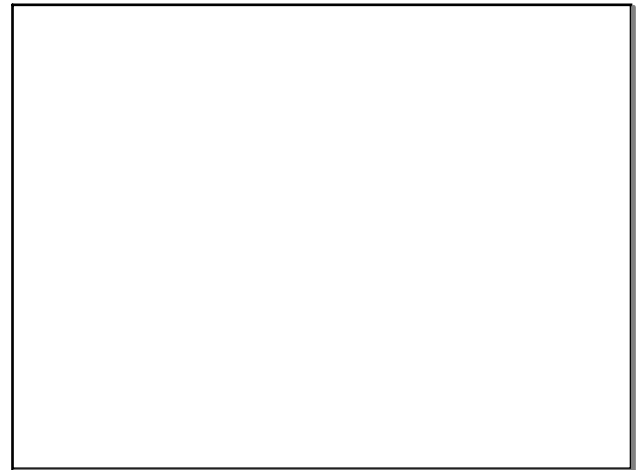
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Foundations of Algebra Unit 2 - Relationships Among Quantities Date: _____ Classwork

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

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

Sep 6-11:02 AM



Sep 14-9:51 AM

Foundations of Algebra Unit 2 - Relationships Among Quantities Date: _____ Practice

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.

Sep 6-11:30 AM

Foundations of Algebra Unit 2 - Relationships Among Quantities Date: _____ 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.

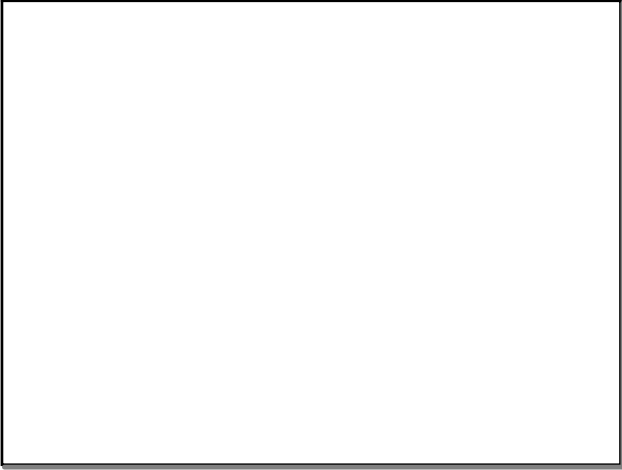
Create a table, graph, and equation for each plan.

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.

Sep 6-11:30 AM



Sep 14-7:57 AM