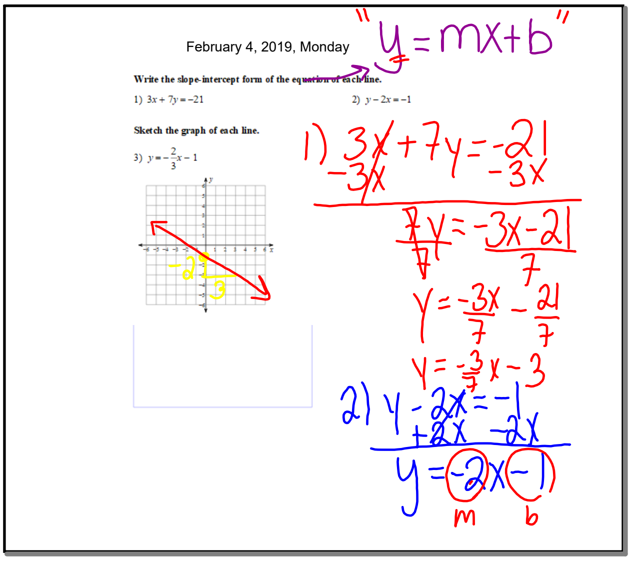


February 4, 2019, Monday

"$y = mx + b$"

Write the slope-intercept form of the equation of each line.

1) $3x + 7y = -21$

2) $y - 2x = -1$

Sketch the graph of each line.

3) $y = -\frac{2}{3}x - 1$

1) $3\cancel{x} + 7y = -21$

$-3\cancel{x} \qquad -3x$

$\frac{\cancel{7}y}{\cancel{7}} = \frac{-3x - 21}{7}$

$y = \frac{-3x}{7} - \frac{21}{7}$

$y = -\frac{3}{7}x - 3$

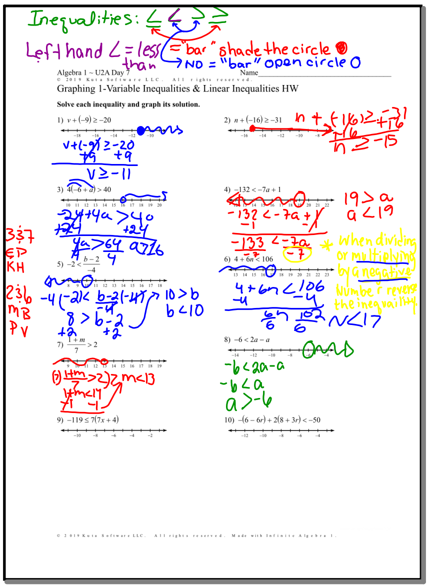
2) $y - \cancel{2x} = -1$

$+\cancel{2x} \qquad -2x$

$y = \boxed{-2}x\boxed{-1}$

m b

Feb 1-10:34 AM



Inequalities: $\leq \; < \; > \; \geq$

Left hand $<$ = less than

= "bar" shade the circle ●

NO = "bar" open circle ○

Algebra 1 ~ U2A Day 7 Name

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Graphing 1-Variable Inequalities & Linear Inequalities HW

Solve each inequality and graph its solution.

1) $v + (-9) \geq -20$

$v + (-9) \geq -20$

$+9 \qquad +9$

$v \geq -11$

2) $n + (-16) \geq -31$

$n + (-16) \geq -31$

$+16 \qquad +16$

$n \geq -15$

3) $4(-6 + a) > 40$

$-24 + 4a > 40$

$+24 \qquad +24$

$\frac{4a}{4} > \frac{64}{4}$ $a > 16$

4) $-132 < -7a + 1$

$-132 < -7a + \cancel{1}$

$-1 \qquad -\cancel{1}$

$\frac{-133}{-7} < \frac{-7a}{-7}$

$19 > a$

$a < 19$

* when dividing or multiplying by a negative number reverse the inequality.

3:37
EP
KH

5) $-2 < \frac{b-2}{-4}$

$-4(-2) < \frac{b-2}{-4}(-4)$

$8 > b - 2$

$+2 \qquad +2$

$10 > b$

$b < 10$

2:36
MB
PV

6) $4 + 6n < 106$

$4 + 6n < 106$

$-4 \qquad -4$

$\frac{6n}{6} \; \frac{102}{6}$ $n < 17$

7) $\frac{1+m}{7} > 2$

(7) $\frac{1+m}{7} > 2(7)$ $m < 13$

$1 + m < 14$

$-1 \qquad -1$

8) $-6 < 2a - a$

$-6 < 2a - a$

$-6 < a$

$a > -6$

9) $-119 \leq 7(7x + 4)$

10) $-(6 - 6r) + 2(8 + 3r) < -50$

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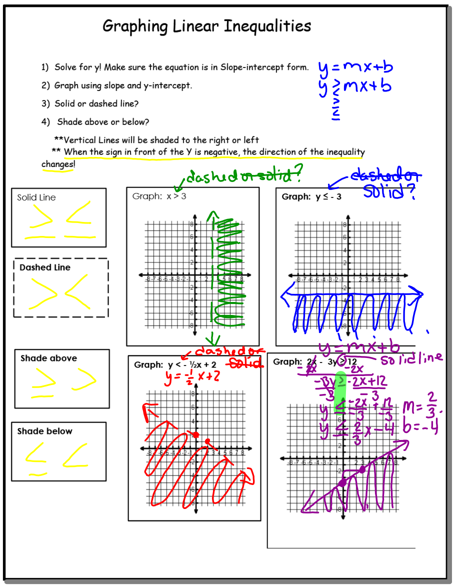
Feb 1-10:33 AM



Graphing Linear Inequalities

1) Solve for y! Make sure the equation is in Slope-intercept form.

2) Graph using slope and y-intercept.

3) Solid or dashed line?

4) Shade above or below?

**Vertical Lines will be shaded to the right or left

** When the sign in front of the Y is negative, the direction of the inequality changes!

$y = mx + b$

$y \geq mx + b$

$\leq$ $<$ $>$

Solid Line $\geq \; \leq$

Dashed Line $> \; <$

Shade above $\geq \; >$

Shade below $\leq \; <$

dashed ~~or solid~~?

Graph: $x > 3$

~~dashed or~~ solid?

Graph: $y \leq -3$

dashed ~~or solid~~

Graph: $y < -\frac{1}{2}x + 2$

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

$y = mx + b$ solid line

Graph: $2x - 3y \geq 12$

$-2x \qquad -2x$

$\frac{-3y}{-3} \geq \frac{-2x + 12}{-3}$

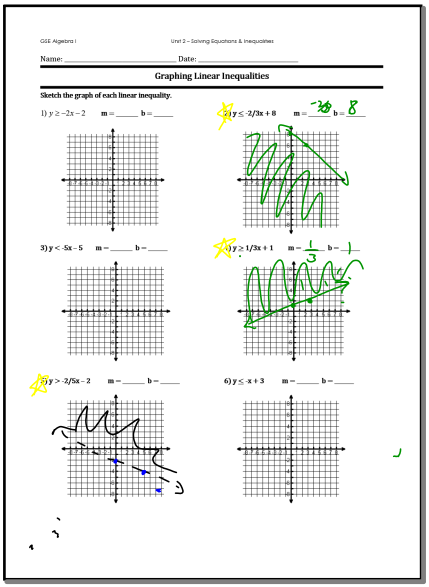
$y \leq \frac{-2x}{-3} + \frac{12}{-3}$

$y \leq \frac{2}{3}x - 4$

$m = \frac{2}{3}$

$b = -4$

Feb 1-8:56 AM



GSE Algebra I

Unit 2 – Solving Equations & Inequalities

Name: ____________________ Date: ____________________

Graphing Linear Inequalities

Sketch the graph of each linear inequality.

1) $y \geq -2x - 2$ m = ______ b = ______

2) $y \leq -2/3x + 8$ m = $-\frac{2}{3}$ b = 8

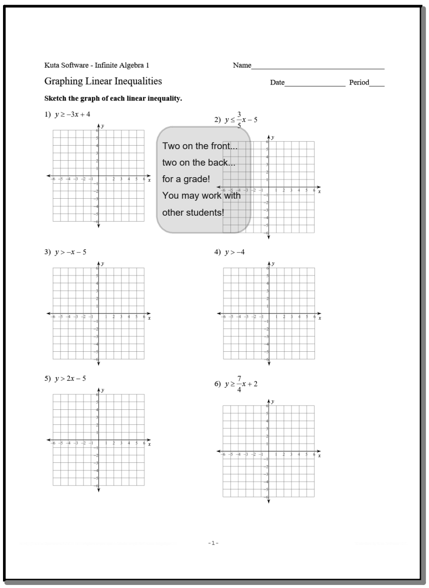
3) $y < -5x - 5$ m = ______ b = ______

4) $y \geq 1/3x + 1$ m = $\frac{1}{3}$ b = 1

5) $y > -2/5x - 2$ m = ______ b = ______

6) $y \leq -x + 3$ m = ______ b = ______

Feb 1-9:10 AM



Kuta Software - Infinite Algebra 1 Name____________________

Graphing Linear Inequalities Date____________ Period____

Sketch the graph of each linear inequality.

1) $y \geq -3x + 4$

2) $y \leq \frac{3}{5}x - 5$

Two on the front...
two on the back...
for a grade!
You may work with other students!

3) $y > -x - 5$

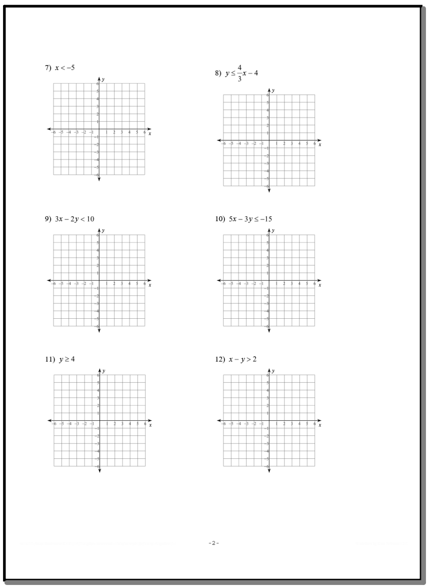
4) $y > -4$

5) $y > 2x - 5$

6) $y \geq \frac{7}{4}x + 2$

-1-

Feb 1-9:11 AM



7) $x < -5$

8) $y \leq \frac{4}{3}x - 4$

9) $3x - 2y < 10$

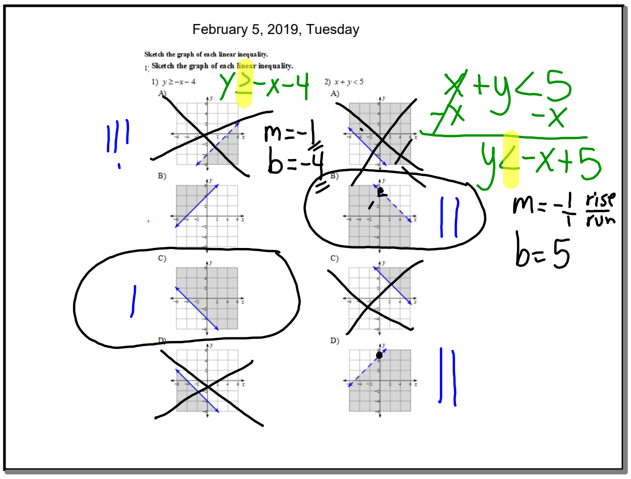
10) $5x - 3y \leq -15$

11) $y \geq 4$

12) $x - y > 2$

-2-

Feb 1-9:12 AM



February 5, 2019, Tuesday

Sketch the graph of each linear inequality.

1) $y \geq -x - 4$

$y \geq -x-4$

$m=-1$

$b=-4$

2) $x + y < 5$

$x+y<5$

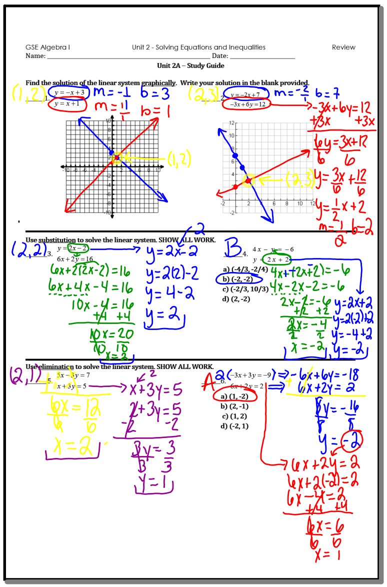
$-x \quad -x$

$y<-x+5$

$m=-\frac{1}{1}$ $\frac{\text{rise}}{\text{run}}$

$b=5$

Jan 31-11:06 AM



GSE Algebra I | Unit 2 - Solving Equations and Inequalities | Review

Name: ______________________ Date: ____________

Unit 2A – Study Guide

Find the solution of the linear system graphically. Write your solution in the blank provided.

(1,2) 1. $y=-x+3$ $m=-1$ $b=3$

$y=x+1$ $m=\frac{1}{1}$ $b=1$

(2,3) 2. $y=-2x+7$ $m=-\frac{2}{1}$ $b=7$

$-3x+6y=12$

$-3x+6y=12$

$+3x \quad +3x$

$6y=3x+12$

$y=\frac{3x}{6}+\frac{12}{6}$

$y=\frac{1}{2}x+2$

$m=\frac{1}{2}$ $b=2$

Use substitution to solve the linear system. SHOW ALL WORK.

(2,2) 3. $y=2x-2$

$6x+2y=16$

$6x+2(2x-2)=16$

$6x+4x-4=16$

$10x-4=16$

$+4 \quad +4$

$10x=20$

$x=2$

$y=2x-2$

$y=2(2)-2$

$y=4-2$

$y=2$

B 4. $4x - y = -6$

$y = 2x + 2$

a) (-4/3, -2/4)

[✓ b) (-2, -2)]

c) (-2/3, 10/3)

d) (2, -2)

$4x-(2x+2)=-6$

$4x-2x-2=-6$

$2x-2=-6$

$+2 \quad +2$

$2x=-4$

$x=-2$

$y=2x+2$

$y=2(-2)+2$

$y=-4+2$

$y=-2$

Use elimination to solve the linear system. SHOW ALL WORK.

(2,1) 5. $5x-3y=7$

$x+3y=5$

$6x=12$

$x=2$

$x+3y=5$

$2+3y=5$

$-2 \quad -2$

$3y=3$

$y=1$

A 6. $2(-3x+3y=-9) \Rightarrow -6x+6y=-18$

$6x+2y=2 \Rightarrow 6x+2y=2$

[✓ a) (1, -2)]

b) (2, -1)

c) (1, 2)

d) (-2, 1)

$8y=-16$

$y=-2$

$6x+2y=2$

$6x+2(-2)=2$

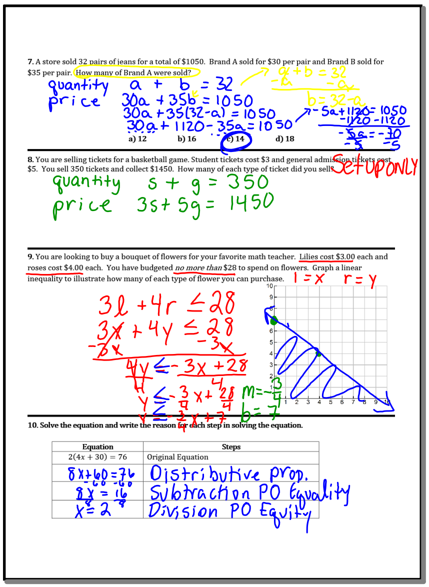
$6x-4=2$

$+4 \quad +4$

$6x=6$

$x=1$

Jan 31-11:19 AM



7. A store sold 32 pairs of jeans for a total of \$1050. Brand A sold for \$30 per pair and Brand B sold for \$35 per pair. How many of Brand A were sold?

quantity $a+b=32$

price $30a+35b=1050$

$30a+35(32-a)=1050$

$30a+1120-35a=1050$

$a+b=32$

$-a \quad -a$

$b=32-a$

$-5a+1120=1050$

$-1120 \quad -1120$

$-5a=-70$

a) 12 b) 16 [✓ c) 14] d) 18

8. You are selling tickets for a basketball game. Student tickets cost \$3 and general admission tickets cost \$5. You sell 350 tickets and collect \$1450. How many of each type of ticket did you sell?

Set UP ONLY

quantity $s+g=350$

price $3s+5g=1450$

9. You are looking to buy a bouquet of flowers for your favorite math teacher. Lilies cost \$3.00 each and roses cost \$4.00 each. You have budgeted *no more than* \$28 to spend on flowers. Graph a linear inequality to illustrate how many of each type of flower you can purchase.

$l=x$ $r=y$

$3l+4r\leq 28$

$3x+4y\leq 28$

$-3x \quad -3x$

$4y\leq -3x+28$

$y\leq -\frac{3}{4}x+\frac{28}{4}$

$y\leq -\frac{3}{4}x+7$

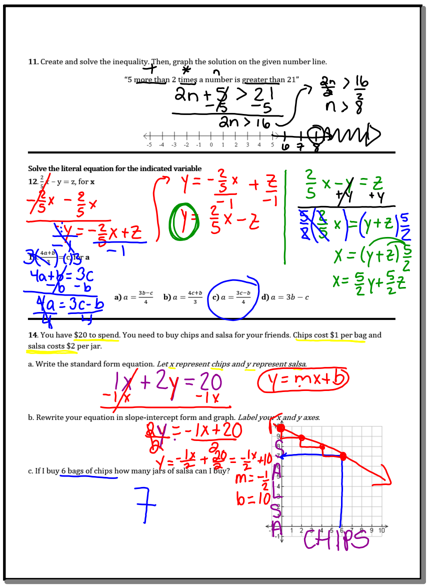
$m=-\frac{3}{4}$

$b=7$

10. Solve the equation and write the reason for each step in solving the equation.

Equation	Steps
$2(4x+30)=76$	Original Equation
$8x+60=76$ $-60 \quad -60$	Distributive prop.
$8x=16$	Subtraction PO Equality
$x=2$	Division PO Equity

Jan 31-11:19 AM



11. Create and solve the inequality. Then, graph the solution on the given number line.

"5 more than 2 times a number is greater than 21"

$2n+5>21$

$-5 \quad -5$

$2n>16$

$\frac{2n}{2}>\frac{16}{2}$

$n>8$

Solve the literal equation for the indicated variable

12. $\frac{2}{5}x - y = z$, for x

$-\frac{2}{5}x \quad -\frac{2}{5}x$

$-y=-\frac{2}{5}x+z$

$y=-\frac{2}{5}x+\frac{z}{-1}$

$y=\frac{2}{5}x-z$

$\frac{2}{5}x-y=z$

$+y \quad +y$

$\frac{5}{2}\left(\frac{2}{5}x\right)=(y+z)\frac{5}{2}$

$x=(y+z)\frac{5}{2}$

$x=\frac{5}{2}y+\frac{5}{2}z$

13. $\frac{4a+b}{3}=c$, for a

$3\left(\frac{4a+b}{3}\right)=(c)3$

$4a+b=3c$

$-b \quad -b$

$4a=3c-b$

a) $a=\frac{3b-c}{4}$ b) $a=\frac{4c+b}{3}$ [✓ c) $a=\frac{3c-b}{4}$] d) $a=3b-c$

14. You have \$20 to spend. You need to buy chips and salsa for your friends. Chips cost \$1 per bag and salsa costs \$2 per jar.

a. Write the standard form equation. *Let x represent chips and y represent salsa.*

$1x+2y=20$

$-1x \quad -1x$

$y=mx+b$

b. Rewrite your equation in slope-intercept form and graph. *Label your x and y axes.*

$2y=-1x+20$

$y=-\frac{1x}{2}+\frac{20}{2}=-\frac{1}{2}x+10$

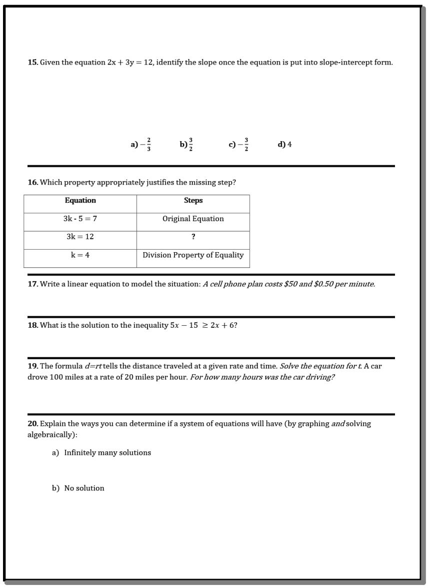
$m=-\frac{1}{2}$

$b=10$

c. If I buy 6 bags of chips how many jars of salsa can I buy?

7

Jan 31-11:20 AM



15. Given the equation $2x + 3y = 12$, identify the slope once the equation is put into slope-intercept form.

a) $-\frac{2}{3}$ b) $\frac{3}{2}$ c) $-\frac{3}{2}$ d) 4

16. Which property appropriately justifies the missing step?

Equation	Steps
3k - 5 = 7	Original Equation
3k = 12	?
k = 4	Division Property of Equality

17. Write a linear equation to model the situation: *A cell phone plan costs \$50 and \$0.50 per minute.*

18. What is the solution to the inequality $5x - 15 \geq 2x + 6$?

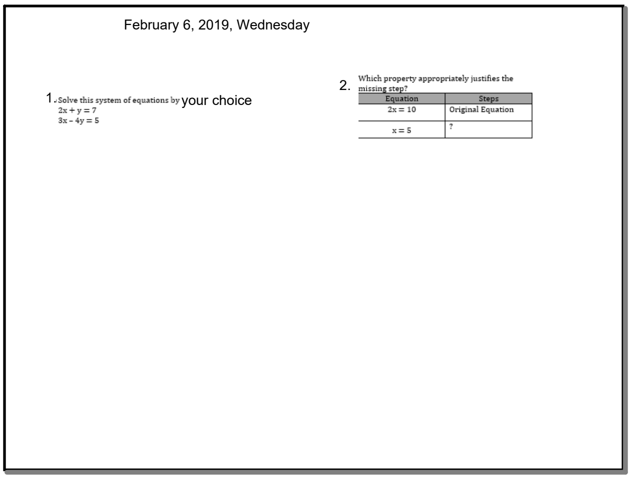
19. The formula $d=rt$ tells the distance traveled at a given rate and time. *Solve the equation for t.* A car drove 100 miles at a rate of 20 miles per hour. *For how many hours was the car driving?*

20. Explain the ways you can determine if a system of equations will have (by graphing *and* solving algebraically):

a) Infinitely many solutions

b) No solution

Jan 31-11:20 AM



February 6, 2019, Wednesday

1. Solve this system of equations by your choice

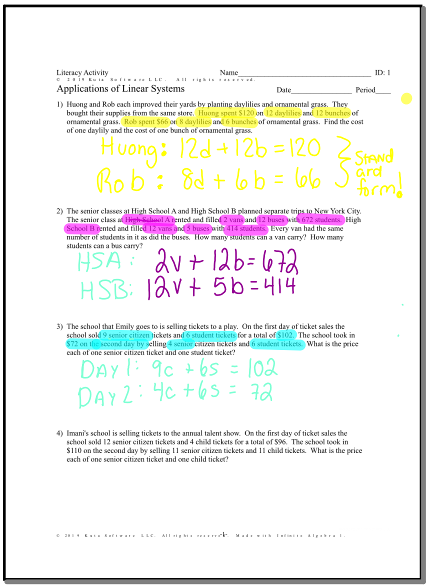
$2x + y = 7$

$3x - 4y = 5$

2. Which property appropriately justifies the missing step?

Equation	Steps
2x = 10	Original Equation
x = 5	?

Jan 31-11:24 AM



Literacy Activity Name________________ ID: 1

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Applications of Linear Systems Date________ Period____

1) Huong and Rob each improved their yards by planting daylilies and ornamental grass. They bought their supplies from the same store. Huong spent $120 on 12 daylilies and 12 bunches of ornamental grass. Rob spent $66 on 8 daylilies and 6 bunches of ornamental grass. Find the cost of one daylily and the cost of one bunch of ornamental grass.

Huong: $12d + 12b = 120$

Rob: $8d + 6b = 66$

Stand ard form!

2) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 2 vans and 12 buses with 672 students. High School B rented and filled 12 vans and 5 buses with 414 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

HSA: $2v + 12b = 672$

HSB: $12v + 5b = 414$

3) The school that Emily goes to is selling tickets to a play. On the first day of ticket sales the school sold 9 senior citizen tickets and 6 student tickets for a total of $102. The school took in $72 on the second day by selling 4 senior citizen tickets and 6 student tickets. What is the price each of one senior citizen ticket and one student ticket?

DAY 1: $9c + 6s = 102$

DAY 2: $4c + 6s = 72$

4) Imani's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 12 senior citizen tickets and 4 child tickets for a total of $96. The school took in $110 on the second day by selling 11 senior citizen tickets and 11 child tickets. What is the price each of one senior citizen ticket and one child ticket?

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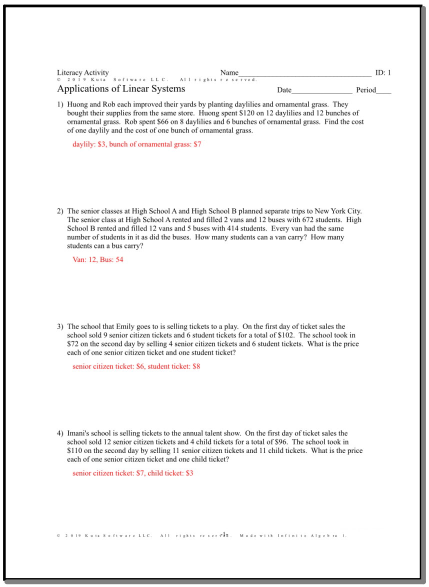
Feb 1-9:14 AM



Literacy Activity Name________________ ID: 1

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Applications of Linear Systems Date________ Period____

1) Huong and Rob each improved their yards by planting daylilies and ornamental grass. They bought their supplies from the same store. Huong spent $120 on 12 daylilies and 12 bunches of ornamental grass. Rob spent $66 on 8 daylilies and 6 bunches of ornamental grass. Find the cost of one daylily and the cost of one bunch of ornamental grass.

daylily: $3, bunch of ornamental grass: $7

2) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 2 vans and 12 buses with 672 students. High School B rented and filled 12 vans and 5 buses with 414 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

Van: 12, Bus: 54

3) The school that Emily goes to is selling tickets to a play. On the first day of ticket sales the school sold 9 senior citizen tickets and 6 student tickets for a total of $102. The school took in $72 on the second day by selling 4 senior citizen tickets and 6 student tickets. What is the price each of one senior citizen ticket and one student ticket?

senior citizen ticket: $6, student ticket: $8

4) Imani's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 12 senior citizen tickets and 4 child tickets for a total of $96. The school took in $110 on the second day by selling 11 senior citizen tickets and 11 child tickets. What is the price each of one senior citizen ticket and one child ticket?

senior citizen ticket: $7, child ticket: $3

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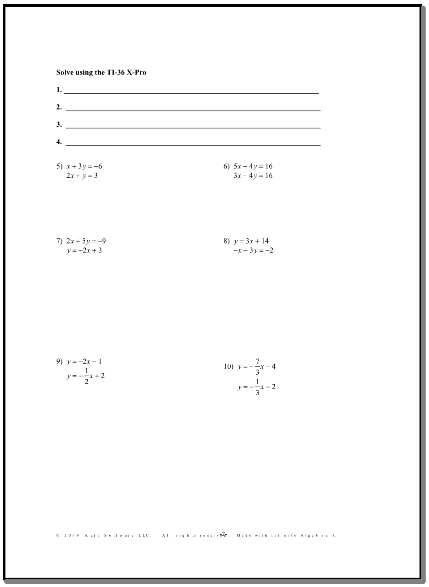
Feb 1-9:14 AM



Solve using the TI-36 X-Pro

1. ______________________

2. ______________________

3. ______________________

4. ______________________

5) $x + 3y = -6$, $2x + y = 3$

6) $5x + 4y = 16$, $3x - 4y = 16$

7) $2x + 5y = -9$, $y = -2x + 3$

8) $y = 3x + 14$, $-x - 3y = -2$

9) $y = -2x - 1$, $y = -\frac{1}{2}x + 2$

10) $y = -\frac{7}{3}x + 4$, $y = -\frac{1}{3}x - 2$

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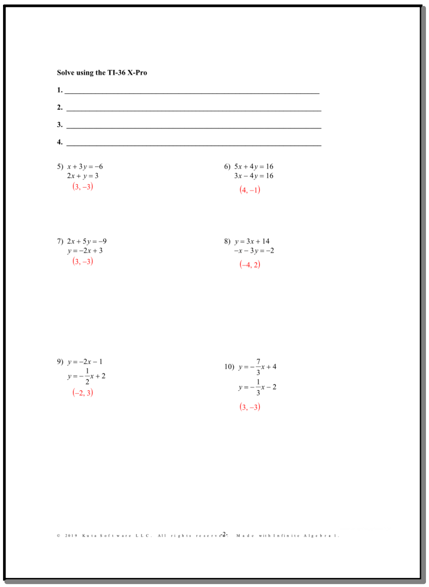
Feb 1-9:14 AM



Solve using the TI-36 X-Pro

1. ______________________

2. ______________________

3. ______________________

4. ______________________

5) $x + 3y = -6$, $2x + y = 3$

$(3, -3)$

6) $5x + 4y = 16$, $3x - 4y = 16$

$(4, -1)$

7) $2x + 5y = -9$, $y = -2x + 3$

$(3, -3)$

8) $y = 3x + 14$, $-x - 3y = -2$

$(-4, 2)$

9) $y = -2x - 1$, $y = -\frac{1}{2}x + 2$

$(-2, 3)$

10) $y = -\frac{7}{3}x + 4$, $y = -\frac{1}{3}x - 2$

$(3, -3)$

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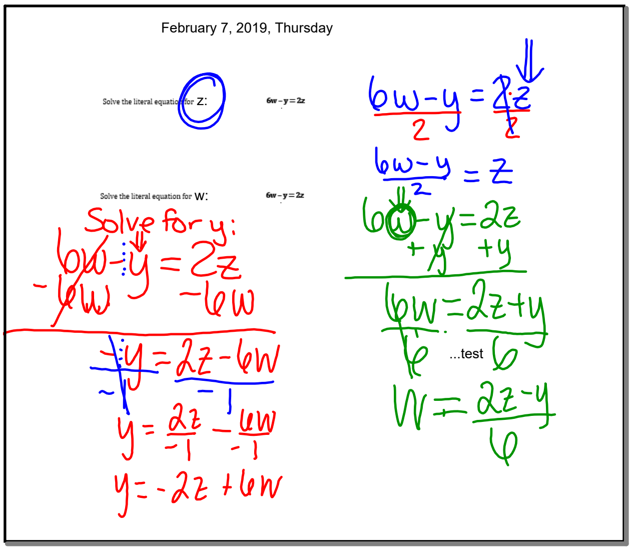
Feb 1-9:15 AM



February 7, 2019, Thursday

Solve the literal equation for z: $6w - y = 2z$

Solve the literal equation for w: $6w - y = 2z$

Solve for y:

$$6w - y = 2z$$
$$-6w \qquad -6w$$
$$\frac{-y}{-1} = \frac{2z - 6w}{-1}$$
$$y = \frac{2z}{-1} - \frac{6w}{-1}$$
$$y = -2z + 6w$$

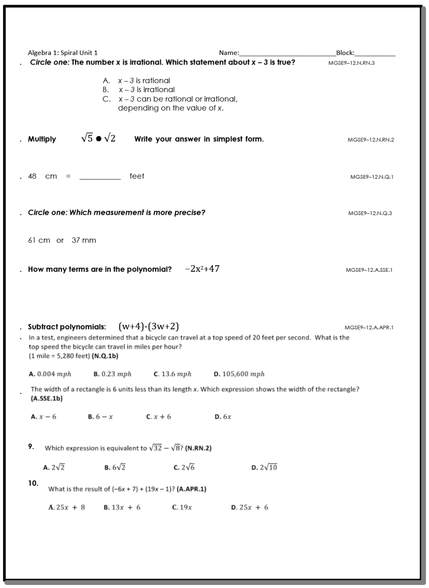
$$\frac{6w - y}{2} = \frac{\cancel{2}z}{\cancel{2}}$$
$$\frac{6w - y}{2} = z$$

$$6w - y = 2z$$
$$+y \qquad +y$$
$$\frac{6w}{6} = \frac{2z + y}{6}$$

...test

$$w = \frac{2z - y}{6}$$

Feb 1-9:15 AM



Algebra 1: Spiral Unit 1 Name:________ Block:______

. *Circle one:* **The number x is irrational. Which statement about *x – 3* is true?** MGSE9–12.N.RN.3

- A. *x – 3* is rational
- B. *x – 3* is irrational
- C. *x – 3* can be rational or irrational, depending on the value of x.

. **Multiply** $\sqrt{5} \bullet \sqrt{2}$ **Write your answer in simplest form.** MGSE9–12.N.RN.2

. 48 cm = ________ feet MGSE9–12.N.Q.1

. ***Circle one: Which measurement is more precise?*** MGSE9–12.N.Q.3

61 cm or 37 mm

. **How many terms are in the polynomial?** $-2x^2+47$ MGSE9–12.A.SSE.1

. **Subtract polynomials:** $(w+4)-(3w+2)$ MGSE9–12.A.APR.1

. In a test, engineers determined that a bicycle can travel at a top speed of 20 feet per second. What is the top speed the bicycle can travel in miles per hour?
(1 mile = 5,280 feet) **(N.Q.1b)**

A. 0.004 *mph* **B.** 0.23 *mph* **C.** 13.6 *mph* **D.** 105,600 *mph*

. The width of a rectangle is 6 units less than its length *x*. Which expression shows the width of the rectangle? **(A.SSE.1b)**

A. $x - 6$ **B.** $6 - x$ **C.** $x + 6$ **D.** $6x$

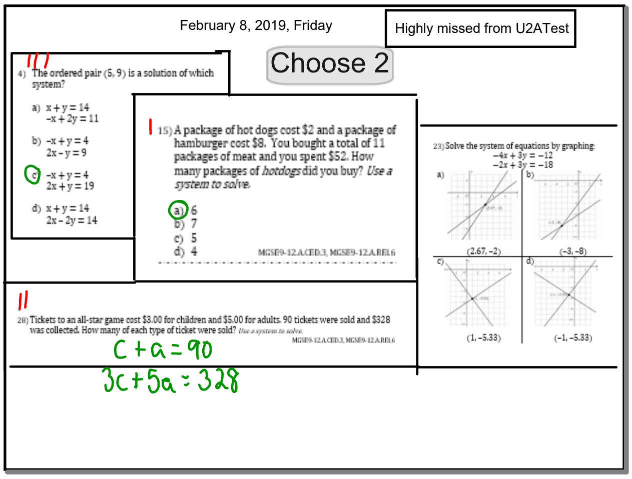
9. Which expression is equivalent to $\sqrt{32} - \sqrt{8}$? **(N.RN.2)**

A. $2\sqrt{2}$ **B.** $6\sqrt{2}$ **C.** $2\sqrt{6}$ **D.** $2\sqrt{10}$

10. What is the result of $(-6x + 7) + (19x - 1)$? **(A.APR.1)**

A. $25x + 8$ **B.** $13x + 6$ **C.** $19x$ **D.** $25x + 6$

Jan 31-11:28 AM



February 8, 2019, Friday

Highly missed from U2ATest

Choose 2

4) The ordered pair (5, 9) is a solution of which system?

a) $x + y = 14$, $-x + 2y = 11$

b) $-x + y = 4$, $2x - y = 9$

c) $-x + y = 4$, $2x + y = 19$

d) $x + y = 14$, $2x - 2y = 14$

15) A package of hot dogs cost \$2 and a package of hamburger cost \$8. You bought a total of 11 packages of meat and you spent \$52. How many packages of *hotdogs* did you buy? *Use a system to solve.*

a) 6
b) 7
c) 5
d) 4

MGSE9-12.A.CED.3, MGSE9-12.A.REI.6

23) Solve the system of equations by graphing:
$-4x + 3y = -12$
$-2x + 3y = -18$

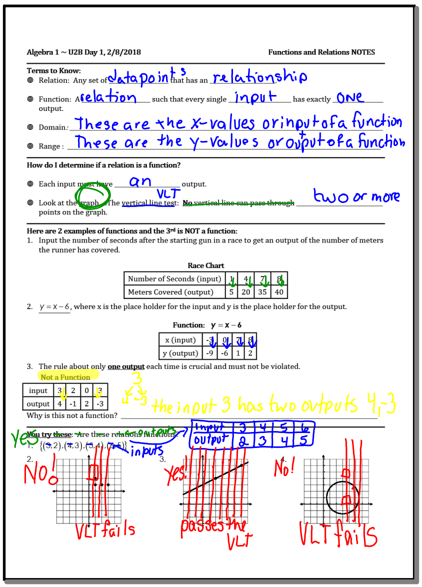
a) (2.67, −2)
b) (−3, −8)
c) (1, −5.33)
d) (−1, −5.33)

28) Tickets to an all-star game cost \$3.00 for children and \$5.00 for adults. 90 tickets were sold and \$328 was collected. How many of each type of ticket were sold? *Use a system to solve.*

MGSE9-12.A.CED.3, MGSE9-12.A.REI.6

$c + a = 90$
$3c + 5a = 328$

Jan 31-11:27 AM



Algebra 1 ~ U2B Day 1, 2/8/2018 **Functions and Relations NOTES**

Terms to Know:

- Relation: Any set of datapoints that has an relationship
- Function: A relation such that every single input has exactly One output.
- Domain: These are the x-values or input of a function
- Range: These are the y-values or output of a function

How do I determine if a relation is a function?

- Each input must have an output.
- Look at the graph. The vertical line test: VLT ~~No vertical line can pass through~~ two or more points on the graph.

Here are 2 examples of functions and the 3rd is NOT a function:

1. Input the number of seconds after the starting gun in a race to get an output of the number of meters the runner has covered.

Race Chart

Number of Seconds (input)	1	4	7	8
Meters Covered (output)	5	20	35	40

2. $y = x - 6$, where x is the place holder for the input and y is the place holder for the output.

Function: $y = x - 6$

x (input)	-3	0	7	8
y (output)	-9	-6	1	2

3. The rule about only **one output** each time is crucial and must not be violated.

Not a Function

input	3	2	0	3
output	4	-1	2	-3

Why is this not a function? the input 3 has two outputs 4, -3

3 → 4, -3

You try these: Are these relations functions?

1. {(3,2),(4,3),(5,4),(6,5)} Yes inputs outputs

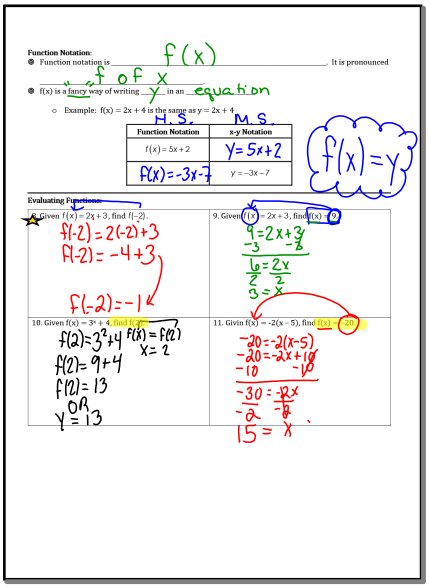
input	3	4	5	6
output	2	3	4	5

2. No! VLT fails

3. Yes! passes the VLT

4. No! VLT fails

Jan 31-11:29 AM



Function Notation:

- Function notation is f(x). It is pronounced "f of x".
- f(x) is a fancy way of writing y in an equation
  - Example: f(x) = 2x + 4 is the same as y = 2x + 4

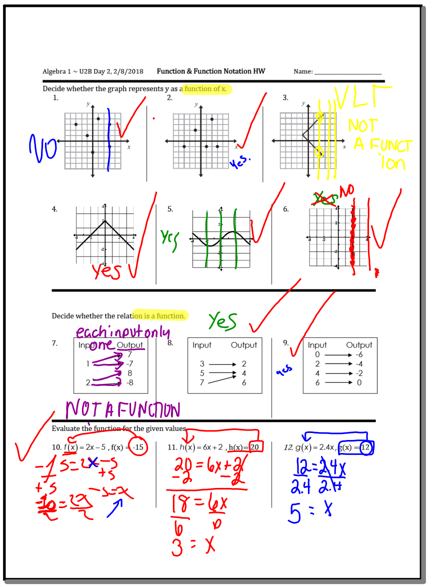
Function Notation H.S.	x-y Notation M.S.
$f(x) = 5x + 2$	$y = 5x + 2$
$f(x) = -3x - 7$	$y = -3x - 7$

$f(x) = y$

Evaluating Functions:

8. Given $f(x) = 2x + 3$, find $f(-2)$. $f(-2) = 2(-2) + 3$ $f(-2) = -4 + 3$ $f(-2) = -1$	9. Given $f(x) = 2x + 3$, find f(x) = 9. $9 = 2x + 3$ $-3 \quad -3$ $6 = 2x$ $\frac{6}{2} = \frac{2x}{2}$ $3 = x$
10. Given $f(x) = 3^x + 4$, find f(2). $f(x) = f(2)$, $x = 2$ $f(2) = 3^2 + 4$ $f(2) = 9 + 4$ $f(2) = 13$ OR $y = 13$	11. Givin f(x) = -2(x – 5), find f(x) = -20. $-20 = -2(x-5)$ $-20 = -2x + 10$ $-10 \quad -10$ $-30 = -2x$ $\frac{-30}{-2} = \frac{-2x}{-2}$ $15 = x$

Jan 31-11:33 AM



Algebra 1 ~ U2B Day 2, 2/8/2018 **Function & Function Notation HW** Name: ______________

Decide whether the graph represents y as a function of x.

1. NO
2. yes
3. VLT NOT A FUNCTion
4. yes
5. yes
6. ~~Yes~~ NO

Decide whether the relation is a function.

7. each input only one — NOT A FUNCTION

Input	Output
1	7
	-7
2	8
	-8

8. Yes

Input	Output
3	2
5	4
7	6

9. yes

Input	Output
0	-6
2	-4
4	-2
6	0

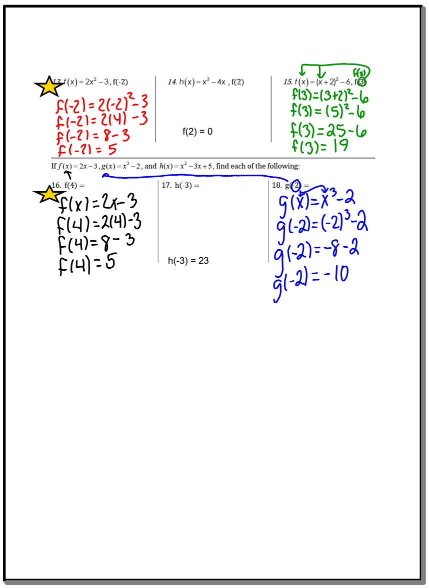
Evaluate the function for the given values.

10. $f(x) = 2x - 5$, f(x) = -15
$-15 = 2x - 5$
$+5 \quad +5$
$\frac{-10}{2} = \frac{2x}{2}$
$-5 = x$

11. $h(x) = 6x + 2$, h(x) = 20
$20 = 6x + 2$
$-2 \quad -2$
$18 = 6x$
$\frac{18}{6} = \frac{6x}{6}$
$3 = x$

12. $g(x) = 2.4x$, g(x) = 12
$\frac{12}{2.4} = \frac{2.4x}{2.4}$
$5 = x$

Jan 31-11:40 AM



13. $f(x) = 2x^2 - 3$, f(-2)
$f(-2) = 2(-2)^2 - 3$
$f(-2) = 2(4) - 3$
$f(-2) = 8 - 3$
$f(-2) = 5$

14. $h(x) = x^3 - 4x$, f(2)
f(2) = 0

15. $f(x) = (x + 2)^2 - 6$, f(3)
$f(3) = (3+2)^2 - 6$
$f(3) = (5)^2 - 6$
$f(3) = 25 - 6$
$f(3) = 19$

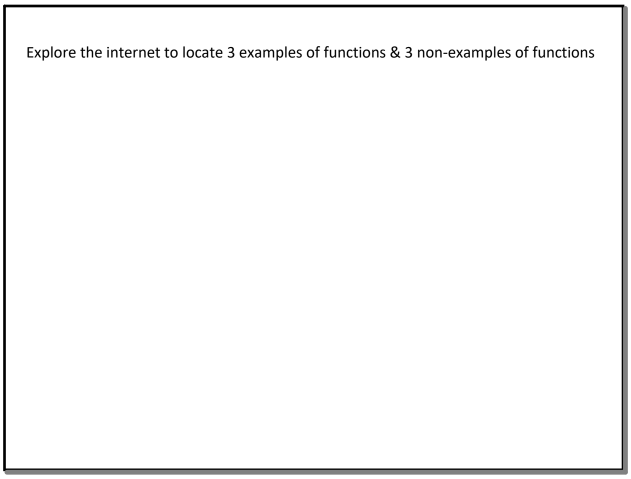
If $f(x) = 2x - 3$, $g(x) = x^3 - 2$, and $h(x) = x^2 - 3x + 5$, find each of the following:

16. f(4) =
$f(x) = 2x - 3$
$f(4) = 2(4) - 3$
$f(4) = 8 - 3$
$f(4) = 5$

17. h(-3) =
h(-3) = 23

18. g(-2) =
$g(x) = x^3 - 2$
$g(-2) = (-2)^3 - 2$
$g(-2) = -8 - 2$
$g(-2) = -10$

Jan 31-11:40 AM



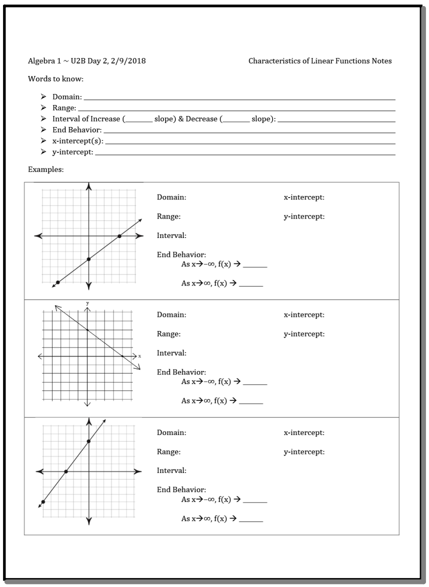
Explore the internet to locate 3 examples of functions & 3 non-examples of functions

Jan 31-11:42 AM

February 7, 2019 Thursday

Define the following vocab:
Domain, range, slope, end behavior, x-intercept, y-intercept. Include a picture fore each.

Jan 31-11:42 AM



Algebra 1 ~ U2B Day 2, 2/9/2018 Characteristics of Linear Functions Notes

Words to know:

- Domain: ______
- Range: ______
- Interval of Increase (______ slope) & Decrease (______ slope): ______
- End Behavior: ______
- x-intercept(s): ______
- y-intercept: ______

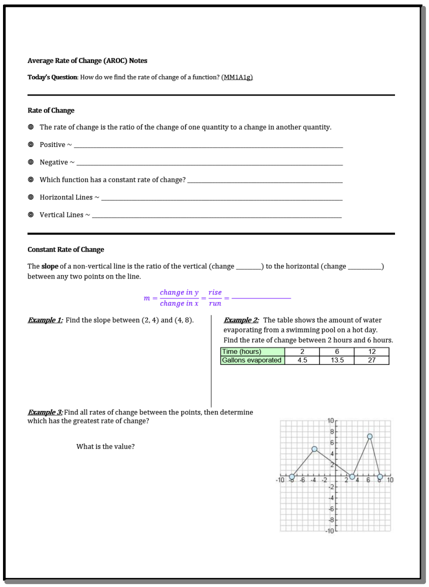
Examples:

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Jan 31-11:44 AM



Average Rate of Change (AROC) Notes

Today's Question: How do we find the rate of change of a function? (MM1A1g)

Rate of Change

- The rate of change is the ratio of the change of one quantity to a change in another quantity.
- Positive ~ ______
- Negative ~ ______
- Which function has a constant rate of change? ______
- Horizontal Lines ~ ______
- Vertical Lines ~ ______

Constant Rate of Change

The **slope** of a non-vertical line is the ratio of the vertical (change ______) to the horizontal (change ______) between any two points on the line.

$$m = \frac{change\ in\ y}{change\ in\ x} = \frac{rise}{run} = \_\_\_\_\_\_\_\_$$

Example 1: Find the slope between (2, 4) and (4, 8).

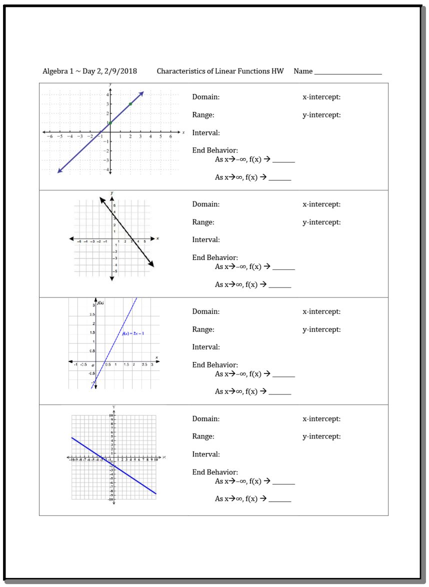
Example 2: The table shows the amount of water evaporating from a swimming pool on a hot day. Find the rate of change between 2 hours and 6 hours.

Time (hours)	2	6	12
Gallons evaporated	4.5	13.5	27

Example 3: Find all rates of change between the points, then determine which has the greatest rate of change?

What is the value?

Jan 31-11:44 AM



Algebra 1 ~ Day 2, 2/9/2018 Characteristics of Linear Functions HW Name ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

Domain: x-intercept:
Range: y-intercept:
Interval:
End Behavior:
As x→−∞, f(x) → ______
As x→∞, f(x) → ______

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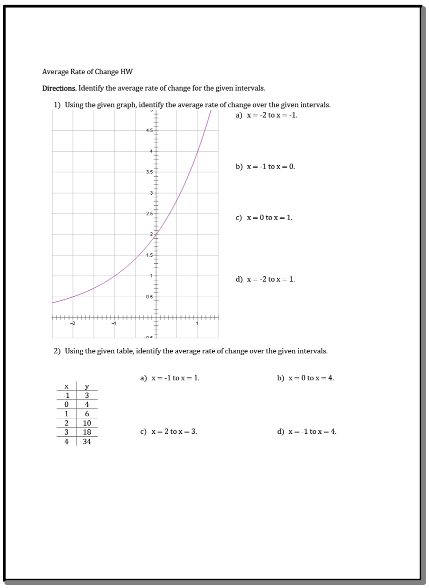


Average Rate of Change HW

Directions. Identify the average rate of change for the given intervals.

1) Using the given graph, identify the average rate of change over the given intervals.

a) x = -2 to x = -1.

b) x = -1 to x = 0.

c) x = 0 to x = 1.

d) x = -2 to x = 1.

2) Using the given table, identify the average rate of change over the given intervals.

x	y
-1	3
0	4
1	6
2	10
3	18
4	34

a) x = -1 to x = 1.

b) x = 0 to x = 4.

c) x = 2 to x = 3.

d) x = -1 to x = 4.

Jan 31-11:45 AM

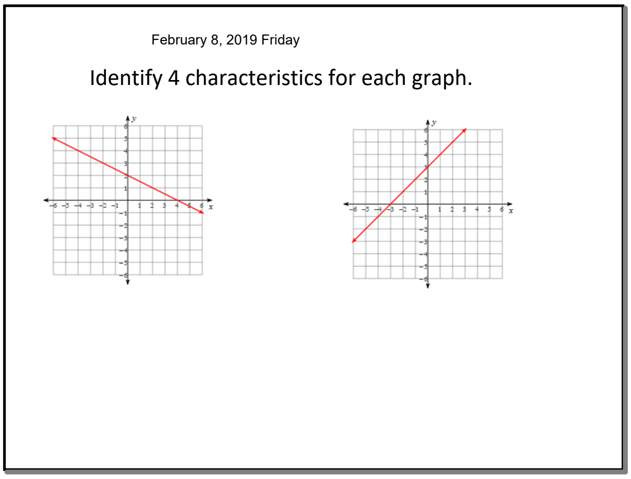
Draw a linear graph

(switch)

partner identify:

domain
range
x-intercept
y-intercept
end behavior

Jan 31-11:45 AM



February 8, 2019 Friday

Identify 4 characteristics for each graph.

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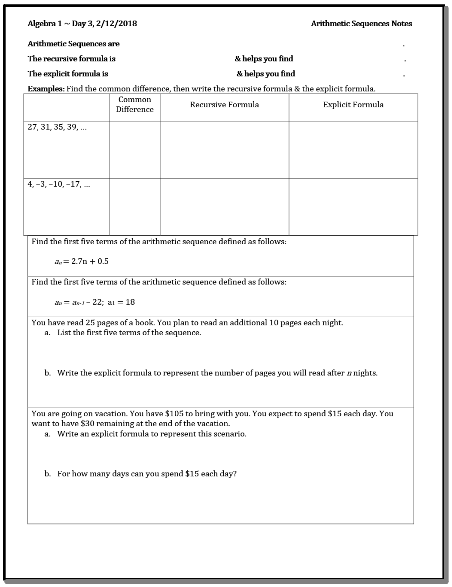

Algebra 1 ~ Day 3, 2/12/2018 **Arithmetic Sequences Notes**

Arithmetic Sequences are ____.

The recursive formula is ______________________ **& helps you find** ______________________.

The explicit formula is ______________________ **& helps you find** ______________________.

Examples: Find the common difference, then write the recursive formula & the explicit formula.

	Common Difference	Recursive Formula	Explicit Formula
27, 31, 35, 39, …			
4, −3, −10, −17, …			

Find the first five terms of the arithmetic sequence defined as follows:

$a_n = 2.7n + 0.5$

Find the first five terms of the arithmetic sequence defined as follows:

$a_n = a_{n-1} - 22;\ a_1 = 18$

You have read 25 pages of a book. You plan to read an additional 10 pages each night.

a. List the first five terms of the sequence.

b. Write the explicit formula to represent the number of pages you will read after *n* nights.

You are going on vacation. You have $105 to bring with you. You expect to spend $15 each day. You want to have $30 remaining at the end of the vacation.

a. Write an explicit formula to represent this scenario.

b. For how many days can you spend $15 each day?

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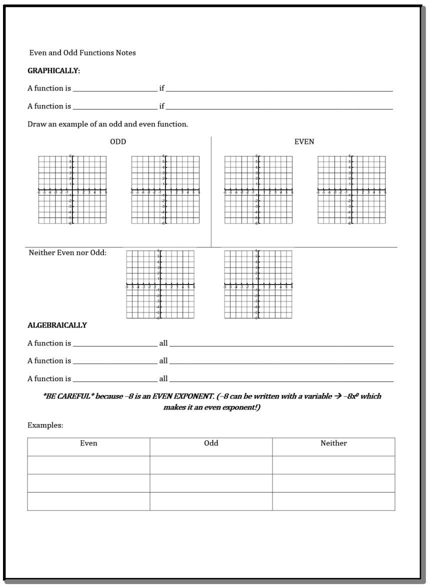

Even and Odd Functions Notes

GRAPHICALLY:

A function is __________________ if ____

A function is __________________ if ____

Draw an example of an odd and even function.

ODD EVEN

Neither Even nor Odd:

ALGEBRAICALLY

A function is __________________ all ____

A function is __________________ all ____

A function is __________________ all ____

BE CAREFUL* because –8 is an EVEN EXPONENT. (–8 can be written with a variable → $-8x^0$ which makes it an even exponent!)

Examples:

Even	Odd	Neither

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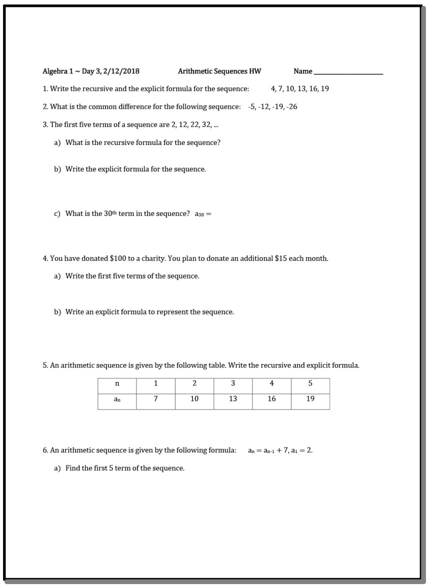

Algebra 1 ~ Day 3, 2/12/2018 **Arithmetic Sequences HW** **Name** ________________

1. Write the recursive and the explicit formula for the sequence: 4, 7, 10, 13, 16, 19

2. What is the common difference for the following sequence: -5, -12, -19, -26

3. The first five terms of a sequence are 2, 12, 22, 32, …

   a) What is the recursive formula for the sequence?

   b) Write the explicit formula for the sequence.

   c) What is the 30th term in the sequence? $a_{30} =$

4. You have donated $100 to a charity. You plan to donate an additional $15 each month.

   a) Write the first five terms of the sequence.

   b) Write an explicit formula to represent the sequence.

5. An arithmetic sequence is given by the following table. Write the recursive and explicit formula.

n	1	2	3	4	5
a_n	7	10	13	16	19

6. An arithmetic sequence is given by the following formula: $a_n = a_{n-1} + 7, a_1 = 2.$

   a) Find the first 5 term of the sequence.

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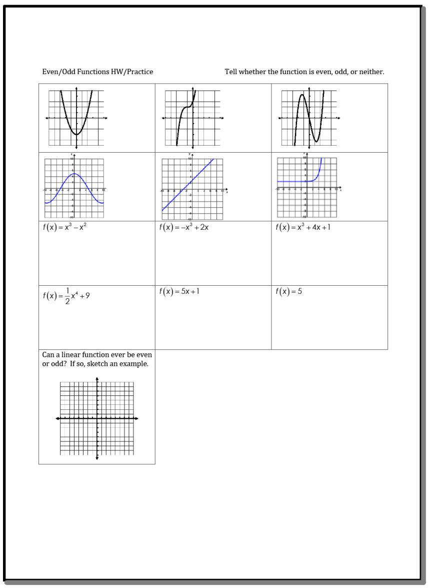

Even/Odd Functions HW/Practice Tell whether the function is even, odd, or neither.

$f(x)=x^3-x^2$	$f(x)=-x^3+2x$	$f(x)=x^3+4x+1$
$f(x)=\frac{1}{2}x^4+9$	$f(x)=5x+1$	$f(x)=5$
Can a linear function ever be even or odd? If so, sketch an example.		

Jan 31-12:00 PM

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