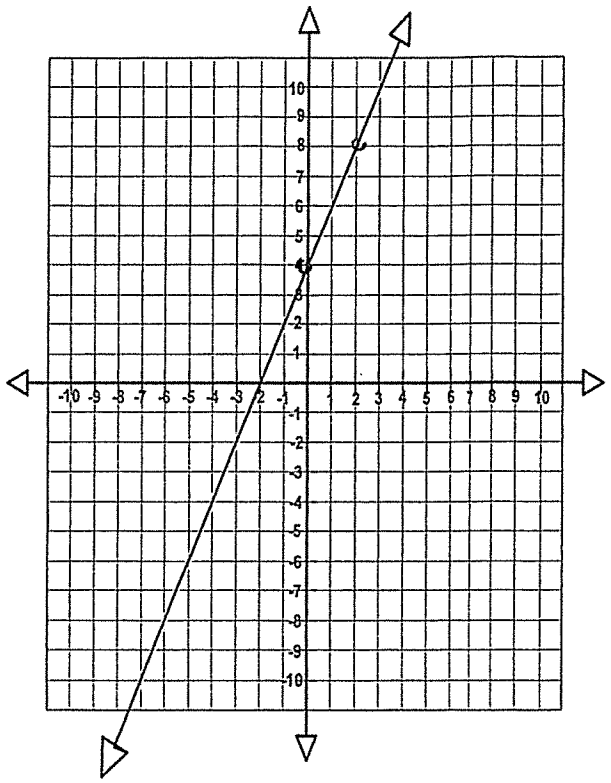
I can find the slope

FINAL EXAM REVIEW - FRIDAY

Part 3/5

Which answers are solutions of the graph?

a) (2,0)
b) (0,4)
c) (2,8)
d) (-2,0)
e) (4,1)



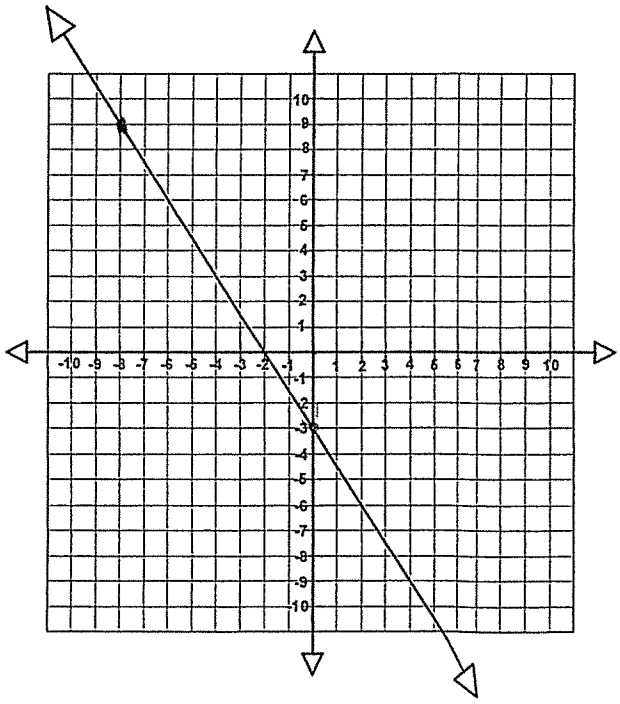
Slope: $\frac{4}{2} = 2$

Y-intercept:

(0,4)

Which answers are solutions of the graph?

a) (0,-3)
b) (-4,1)
c) (2,8)
d) (3,1)
e) (-8,9)



Slope: 3/2

Y- intercept : (0,-3)

.Two linear functions are described below. Based on the information below, which of the following statements are true?

Function 1 has the equation $y = -3x + 5$ $m = -3$ $b = 5$

Function 2 is a line passing through the points (0, 5) and (5, -10)

x_1, y_1 x_2, y_2

$$\frac{-10-5}{5-0} = \frac{-15}{5} = -3$$

$y = -3x + 5$

a. Function 1 and 2 have the same slope.
b. Function 1 and 2 have the same x-intercept
c. Function 1 and 2 have the same y-intercept
d. Function 1 and 2 represent the same lines.

1. Determine the rate of change and explain what it means.

42 miles per hour

Time (Hours)	Distance (Miles)
4	168
6	252
8	336
10	420

2 (4 → 168) 84

$\frac{84}{2} = 42$

x	y
0	0
2	84
4	168

+84, +84

2. Write an equation in slope-intercept Form

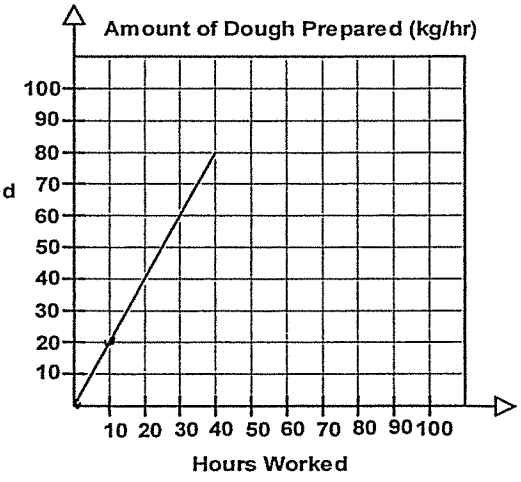
$y = 42x + 0$

3. What does the y-intercept represent?

At 0 hours, they were at 0 miles

1. Determine the rate of change and explain What it means

$\frac{20}{10} = 2$ kg of dough Prepared per hour



2. Write an equation in Slope-intercept form.

$y = 2x + 0$

3. What does the y-intercept represent?

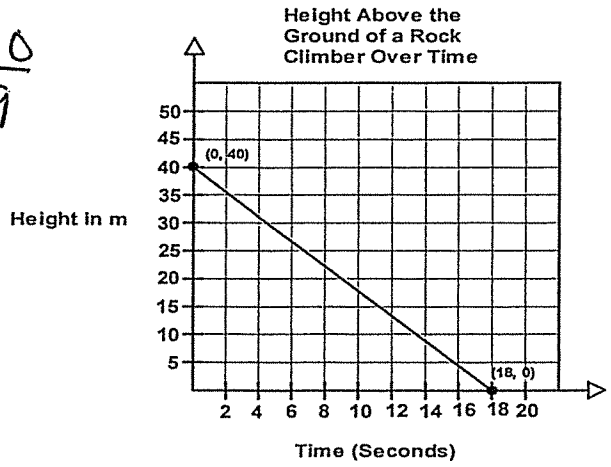
At 0 hours there was 0 kg of dough prepared

1. **Determine the rate of change.**

$$\frac{40-0}{0-18} = \frac{40}{-18} = -\frac{20}{9}$$

2. **Write an equation in Slope-intercept form.**

$$y = -\frac{20}{9}x + 40$$



3. **What does the y-intercept represent?**

The rock climber started 40 m above the ground

Which table represents a linear function with the same slope as $y = -4x + 5$

a.

x	0	1	2	3	4
y	3	6	9	12	15

+1, +3 $\quad \frac{3}{1} = 3$

b.

x	-2	-1	0	1	2
y	1	3	5	7	9

+1, -2 $\quad \frac{-2}{1} = -2$

c.

x	0	-1	-2	-3	-4
y	-8	-4	0	4	8

-1, +4 $\quad -\frac{4}{1} = 4$

d.

x	-2	-1	0	1	2
y	10	15	20	25	30

+1, +5 $\quad \frac{5}{1} = 5$

Calculate the slope and explain what it means

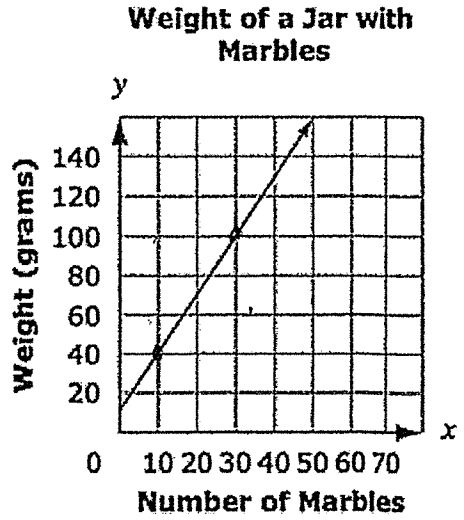
a. 3 ; every time a marble is put in the jar, it adds 3 grams.

b. 1/3; every time 3 marbles are put in the jar, it adds 1 gram

c. 3/2; every time 3 marbles are put in the jar, it adds 2 grams.

d. 2/3; every time 2 marbles are put in the jar, it adds 3 grams.

$$\frac{60}{20} = 3$$



I can evaluate a function **Final Exam Review - Monday Part 4/5**

If $f(x) = -2x + 2$ then find $f(-2)$

$-2(-2)+2$

$-4+2 = \boxed{-2}$

If $g(x) = -x^2 + 5x$, then find $g(-12)$

$-(-12)^2 + 5(-12)$

$\boxed{-204}$

If $f(x) = -4x + 7$ then find $f(3)$

$-4(3)+7 = \boxed{-5}$

If $f(x) = -x+4$, then find $f(-3)$

$-(-3)+4$

$3+4 = \boxed{7}$

A company makes cell phones where $f(x) = 32x + 40$ represents the cost to make the phones and x represents the number of cell phones made. Which statement is correct?

plug in # of cellphones to find cost

a. It costs \$8 to make two cell phones

b. It costs \$200 to make five cell phones

c. It costs \$320 to make ten cell phones

d. It costs \$72 to make two cell phones

$32(5)+40 = 200$ ✓

I can determine if an ordered pair is a solution

Which of the following is a solution to the function $f(x) = -\frac{1}{2}x - 6$

a) (-2, -5) $-\frac{1}{2}(-2)-6 = -5$ yes

b) (0, -6) $-\frac{1}{2}(0)-6 = -6$ yes

c) (5, 19) $-\frac{1}{2}(5)-6 = -8.5$ NO

d) (-3, -4) $-\frac{1}{2}(-3)-6 = -4.5$ NO

Which of the following is a solution to the function f(x) = 3x + 4

a) (-2, -11) $3(-2)+4 = -2$ NO

b) (0, 6) $3(0)+4 = 4$ NO

c) (6, -9) $3(6)+4 = 22$ NO

d) (10, 34) $3(10)+4 = 34$ Yes

Which of the following is a solution to the function f(x) = -2x +1 ? Circle all that apply

a. (4,0) $-2(4)+1$ $-8+1$ -7

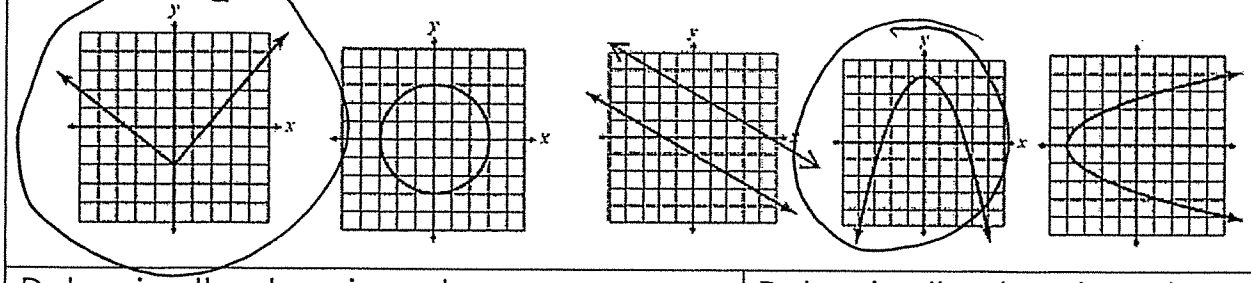
b. (3,7) $-2(3)+1$ $-6+1$ -5

c. (0,1) $-2(0)+1$ $0+1$ 1 ✓

d. (8, -15) $-2(8)+1$ $-16+1$ -15

I can determine if a relation is a function or not and I can find domain and range.

Which ~~relations~~ are functions? Circle all functions.



Determine the domain and range.

{(-3, -6), (-1, -6), (5, -6), (8, -6)}

Domain: $\{-3, -1, 5, 8\}$

Range: $\{-6\}$

Is this relation a function? Explain your reasoning.

Yes, each input has exactly one output

Determine the domain and range.

{(-2, 4), (-2, 0), (6, 5), (0, -2)}

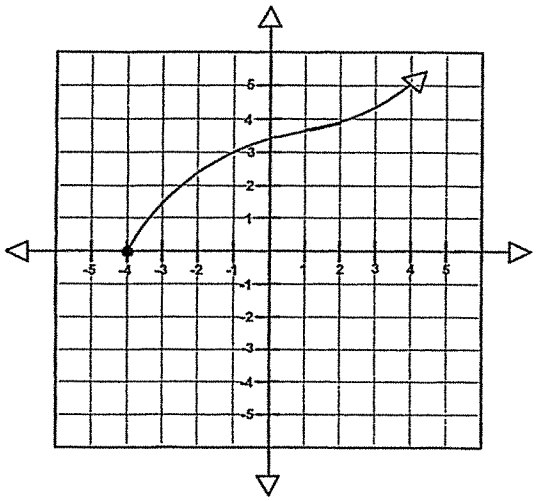
Domain: $\{-2, 0, 6\}$

Range: $\{-2, 0, 4, 5\}$

Is this relation a function? Explain your reasoning.

NO, -2 has more than one output

Determine the domain and range.



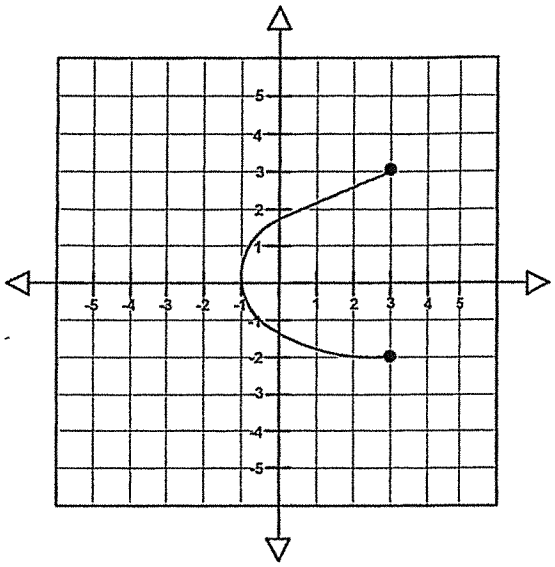
Domain: $x \geq -4$

Range: $y \geq 0$

Is this relation a function? Explain your reasoning.

Yes, passes VLT

Determine the domain and range.



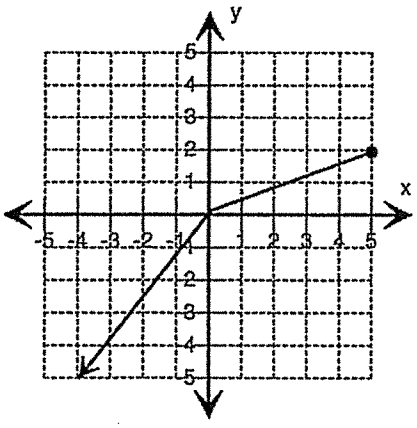
Domain: $-1 \leq x \leq 3$

Range: $-2 \leq y \leq 3$

Is this relation a function? Explain your reasoning.

NO, Fails VLT

Determine the domain and range.



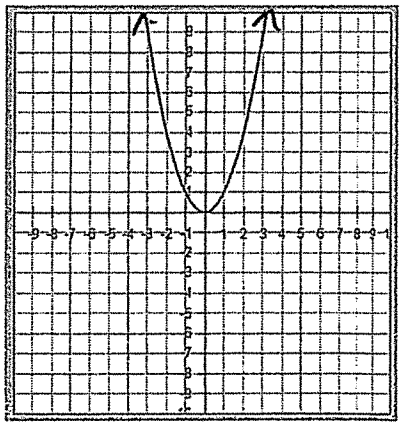
Domain: $x \leq 5$

Range: $y \leq 2$

Is this relation a function? Explain your reasoning.

Yes, passes VLT

Determine the domain and range.



Domain: All #s

Range: $y \geq 0$

Is this relation a function? Explain your reasoning.

Yes, passes VLT

Determine the domain and range.

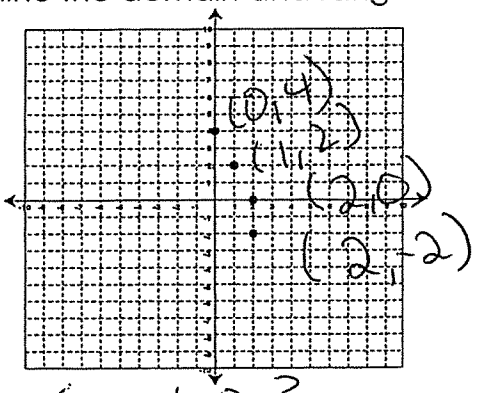
Number of Identical Notebooks	Regular Cost of Notebooks (No Discounts)
7	5.53
2	1.58
5	3.95
3	2.37

Domain: {2, 3, 5, 7}
Range: {1.58, 2.37, 3.95, 5.53}

Is this relation a function? Explain your reasoning.

Yes, each input has one output

Determine the domain and range.

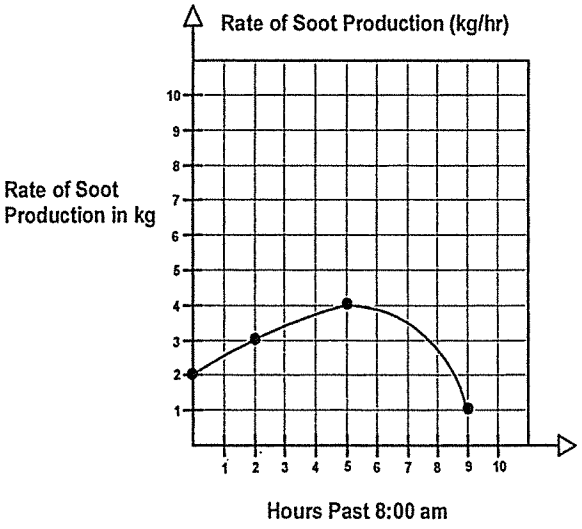


Domain: {0, 1, 2}
Range: {-2, 0, 2, 4}

Is this relation a function? Explain your reasoning.

NO, 2 has two outputs

Answer the following questions about the graph below



1. What is the domain and range?

Domain: $0 \leq x \leq 9$

Range: $1 \leq y \leq 4$

2. How much soot is the factory producing at 12?

~~X~~ Read X-axis

3.8 kg

3. What is a reasonable domain?

Any # between 0 & 9

Name_____

Hour_____

Part 5/6 - Tuesday

Semester 1 Final Exam Study Guide

I can solve equations

Solve for x.

$-(x + 5) = 3x + 2(x - 4)$

$-x - 5 = 3x + 2x - 8$

$-x - 5 = 5x - 8$

$+x \quad +x$

$-5 = 6x - 8$

$+8 \quad +8$

$\frac{3}{6} = \frac{6x}{6}$

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

Solve for x.

$-3x - 6x + x - 7 = -15x$

$-8x - 7 = -15x$

$+8x \quad +8x$

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

$1 = x$

Solve for x.

$-2x - (8 - 4x) = -18 + 2x$

$-2x - 8 + 4x = -18 + 2x$

$2x - 8 = -18 + 2x$

$-2x \quad -2x$

$-8 = -18$

NO Solution

Solve for x.

$75 = 3(-6x - 5)$

$75 = -18x - 15$

$+15 \quad +15$

$\frac{90}{-18} = \frac{-18x}{-18}$

$-5 = x$

Describe the steps in both math and writing for solving the following problem: $3x - \frac{1}{2}(2 + 5x) = 12$

Math

$3x - 2 - 5x = 12$

$-2x - 2 = 12$

$+2 \quad +2$

$\frac{-2x}{-2} = \frac{14}{-2}$

$x = -7$

Written

1. Distribute - Sign
2. Combine like terms
3. Add 2
4. Divide by -2

$-4k+6=1-4k-1$

$+4k \quad +4k$

$6=0$

No Solution

$4(b-4)+8b=-88$

$4b-16+8b=-88$

$12b-16=-88$

$+16 \quad +16$

$\frac{12b}{12}=\frac{-72}{12}$

$b=-6$

$-18-8n=2(-6n+5)$

$-18-8n=-12n+10$

$+12n \quad +12n$

$-18+4n=10$

$+18 \quad +18$

$\frac{4n}{4}=\frac{28}{4}$

$n=7$

$7p+4-4=-12+7p+5+7$

$7p=7p$

$0=0$

Infinite Solutions

$1+6n+6n=-6+4n+7n$

$1+12n=-6+11n$

$-11n \quad -11n$

$1+1n=-6$

$-1 \quad -1$

$n=-7$

$-198=-3(-6+7n)-6n$

$-198=18-21n-6n$

$-198=18-27n$

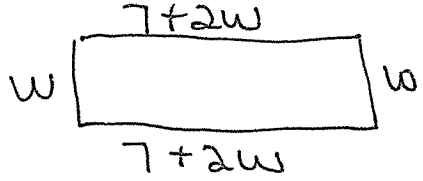
$-18 \quad -18$

$\frac{-216}{-27}=\frac{-27n}{-27}$

$8=n$

I can represent real world problems

The length of a rectangle is 7 cm more than twice its width. The perimeter of the rectangle is 32 cm. What are the dimensions of the rectangle?



$14+6w=32$

$-14 \quad -14$

$\frac{6w}{6}=\frac{18}{6}$

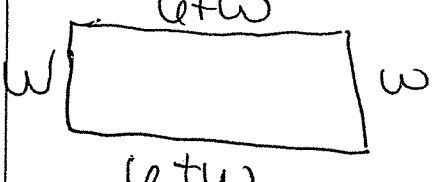
$w=3$

width = 3cm

Length = 7+2(3)

13cm

The length of the rectangle is 6 in. more than its width. The perimeter of the rectangle is 44 in. What are the dimensions of the rectangle?



$12+4w=44$

$-12 \quad -12$

$\frac{4w}{4}=\frac{32}{4}$

$w=8$

width = 8 in

Length = 6+8

14in

I can write equations in slope-intercept form and graph

x	y
-10	3
-5	6
0	9
5	12
10	15

+5 +5 +3

Which linear equation models this table?

a. $y = 5/3x + 9$

b. $y = 3/5\ x + 9$

c. $y = 9$

d. $y = 9x + 3/5$

$m = \frac{3}{5}$

$b = 9$

Saif is sitting on top of a building and tosses a ball down to his friend who is on the ground. The height, y, in feet, of the ball is a function of time, x in seconds as shown in the table:

x	y
0	11
0.5	12
1	11
1.5	5
2	0

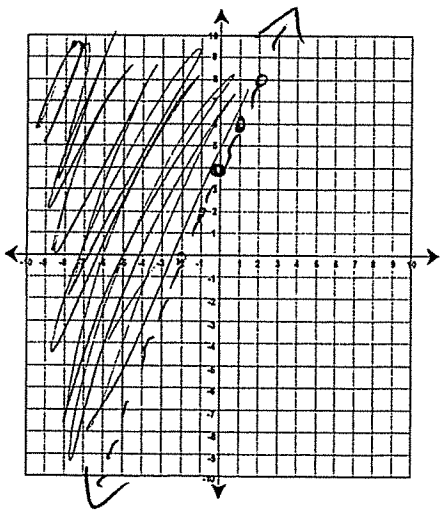
Which statement **best** describes the meaning of the y-intercept of this function?

a. The ball is originally 11 feet above the ground.
b. The ball reaches a maximum height of 11 feet.
c. The ball takes 12 seconds to reach the ground.
d. The ball reaches a maximum height after 12 seconds.

I can graph inequalities

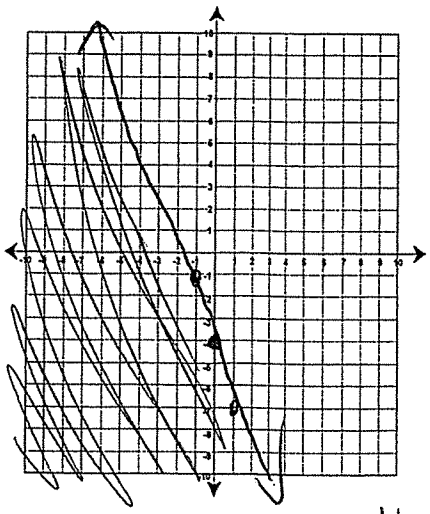
Graph the inequality

$Y > 2x+4$



Graph the inequality

$Y \leq -3x -4$



11n

I can solve inequalities

Solve then graph

$5x + 2 < 2x - 4$

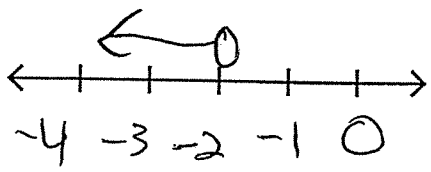
$-2 \quad -2$

$5x < 2x - 6$

$-2x \quad -2x$

$\frac{3x}{3} < \frac{-6}{3}$

$x < -2$



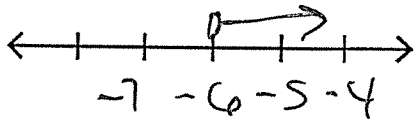
$-4 > 2(-x - 8)$

$-4 > -2x - 16$

$+16 \quad +16$

$\frac{12}{-2} > \frac{-2x}{-2}$

$-6 < x \quad$ or $\quad x > -6$



$9n - 8 \leq 12n + 4$

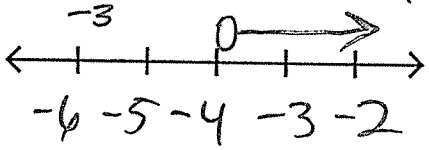
$-12n \quad -12n$

$-3n - 8 \leq 4$

$+8 \quad +8$

$\frac{-3n}{-3} < \frac{12}{-3}$

$n > -4$



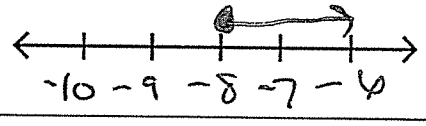
$3 \leq -3(x - 9)$

$3 \leq 3x + 27$

$-27 \quad -27$

$\frac{-24}{3} \leq \frac{3x}{3}$

$-8 \leq x$ or $x \geq -8$



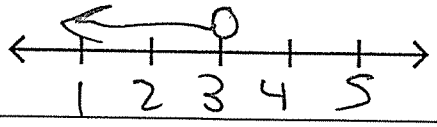
$76 > 4(1 + 6k)$

$76 > 4 + 24k$

$-4 \quad -4$

$\frac{72}{24} > \frac{24k}{24}$

$3 > k$ or $k < 3$



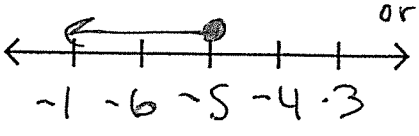
$80 \geq -4(-5 + 3x)$

$80 \geq 20 - 12x$

$-20 \quad -20$

$\frac{60}{-12} \geq \frac{-12x}{-12}$

$-5 \geq x$ or $x \leq -5$



$-4(-6 - 3a) + 4 > 6a + 16$

$24 + 12a + 4 > 6a + 16$

$12a + 28 > 6a + 16$

$-6a \quad -6a$

$6a + 28 > 16$

$-28 \quad -28$

$\frac{6a}{6} > \frac{-12}{6}$

$a > -2$