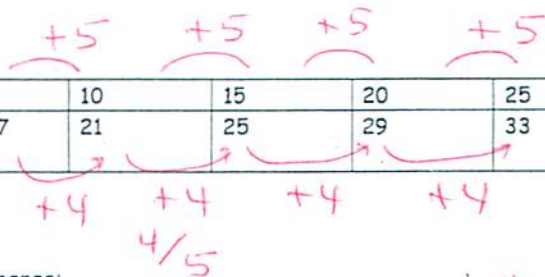


Bridge to Alg II

Unit 2 Review

1)

Time in minutes	0	5	10	15	20	25
Number of customers	13	17	21	25	29	33



Average rate of change: _____

In words: (include units) increase of _____

4 customers every 5 minutes

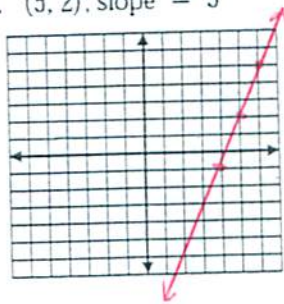
Equation: $y = \frac{4}{5}x + 13$

2. Find the slope of the line through $(3, -4), (-5, 6)$

$$\frac{6 - (-4)}{-5 - 3} = \frac{10}{-8} = -\frac{5}{4}$$

Through the given point, graph a line with the given slope.

3. $(5, 2)$; slope = 3



Use the following information to find the equations of the lines

4. Slope is $\frac{2}{3}$

point on line is $(6, 1)$

$$y = mx + b$$

$$1 = \frac{2}{3}(6) + b$$

$$1 = \frac{12}{3} + b$$

$$1 - 4 = b$$

$$-3 = b$$

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

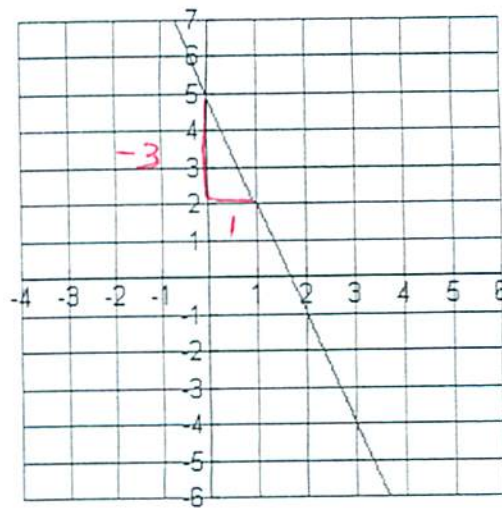
5.

x	y
-2	10
-1	7
0	4 = b
1	1
2	-2

$$m = \frac{1 - 4}{1 - 0} = -3$$

$$y = -3x + 4$$

6.



$$y = -3x + 5$$

7. Find the y-intercept coordinate.

$$2x + 4y = 8$$

$$4y = 8$$

$$y = 2$$

$$(0, 2)$$

8. Find the x-intercept coordinate

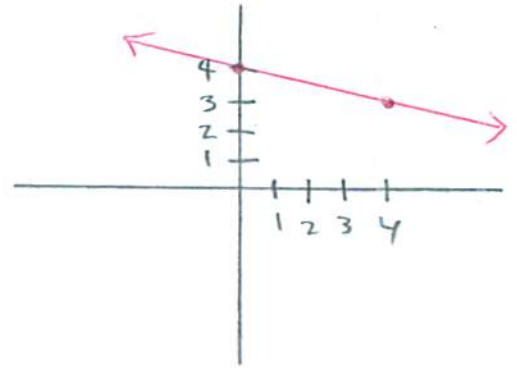
$$3x - 4y = 12$$

$$3x = 12$$

$$x = 4$$

$$(4, 0)$$

9. sketch the line $y = -\frac{1}{4}x + 4$



10.

Year	U.S. Luxury Car Sales (%)
1988	9.9
1989	11.6
1990	13.0
1991	13.9
1992	13.4
1993	12.8

A) Find the equation of the line best fit

$$y = .594x - 1170.492$$

B) What is the slope in the context of the problem

increase in percent of car sales per year

C) Predict the U.S. Luxury Car Sales Percent in 2009

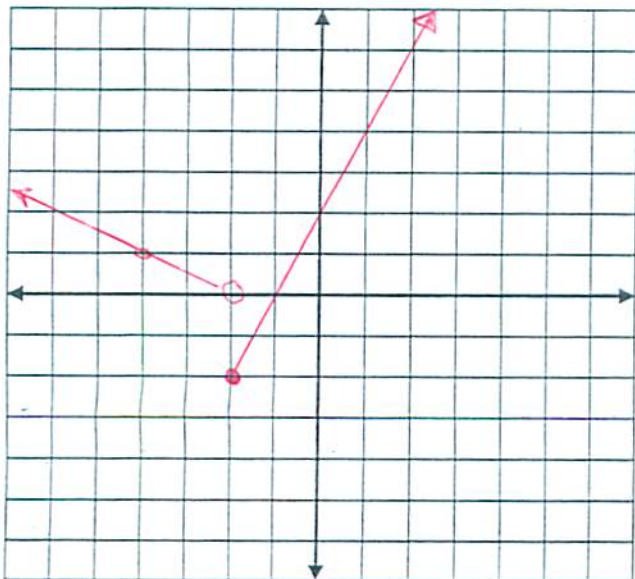
$$.594(2009) - 1170.492 = 22.854\%$$

Sketch the piece-wise functions below

11.

$$y = \begin{cases} -\frac{1}{2}x - 1, & x < -2 \\ 2x + 2, & x \geq -2 \end{cases}$$

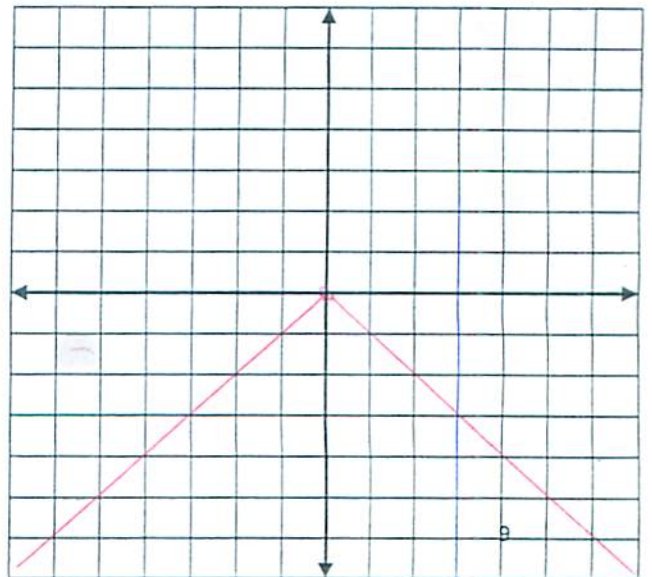
$(-2, 0)$ open $-\frac{1}{2}(-2) - 1 = 0$
 $(-2, -2)$ closed $2(-2) + 2 = -2$



12.

$$y = \begin{cases} x, & x < 0 \\ -x, & x \geq 0 \end{cases}$$

$(0, 0)$ open
 $(0, 0)$ closed



13. Jacob saves 3 baseball cards a week. He currently has 6 baseball cards.

A) Write an equation

$$y = 3x + 6$$

B) What does the slope represent in the context of the problem?

saves 3 cards per week

C) What is the meaning of the y-intercept in the context of the problem?

initial value is 6 cards

D) How many cards will he have after one month (5 weeks)?

using $x = 5$

$$y = 3 \cdot 5 + 6$$

$$y = 21 \text{ cards}$$

E) How many weeks does he have to save to have 45 baseball cards?

$$45 = 3x + 6$$

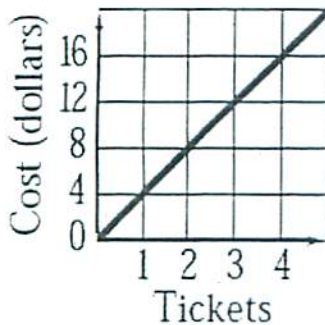
$$39 = 3x$$

$$13 = x$$

weeks

14.

Cost of Movie Tickets



A) What is the rate of change in the context of the problem.

dollars
ticket

B) What is the Y-intercept in the context of the problem?

0 tickets cost 0 dollars

C) What is the equation of the line and label your variables.

$$y = 4x$$

$x = \#$ tickets

$y =$ total cost of x tickets

D) Using your equation, what will be the cost for 22 people?

$$y = 4(22)$$

$$y = \$88$$

E) If you have \$50, how many tickets can you purchase?

$$50 = 4x$$

$$\frac{50}{4} = x$$

$$12.5 = x$$

You can buy 12 movie tickets and a \$2 Coke.