

Name: _____

Date: _____

Per: _____

UNIT 2 REVIEW

Unit 2 Test Date: _____

FORMULAS

$$\text{SLOPE} = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope - Intercept Equation of a Line:

$$y = mx + b$$

To find the x-intercept, put zero in for y

To find the y-intercept, put zero in for x

1) Find the equation of the line with the given information

A) slope = $\frac{1}{5}$ y-intercept: (0, -3)

$$y = \frac{1}{5}x - 3$$

B) (-3, 5) (6, -1)

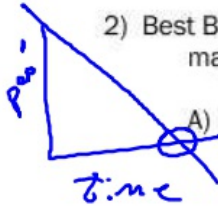
$$y = -\frac{2}{3}x + 3$$

C) Slope = -3 (4, -10)

$$y = -3x + 2$$

D) m = 4 b = 5

$$y = 4x + 5$$



2) Best Buy makes an announcement that they are closing in 30 minutes. All customers are asked to make their purchases and exit the building.

A) Find the equation of the best fit line using the table.

$$y = -17.6/x + 301.44$$

Time in Minutes	Number of people In store
5	231
4	215
6	198
8	160
10	122

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

17 people are leaving the store each minute

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

301 people in the store when the announcement was made.

D) What is the meaning of the x-intercept in the context of the problem?

How long it took for everyone to leave the store.

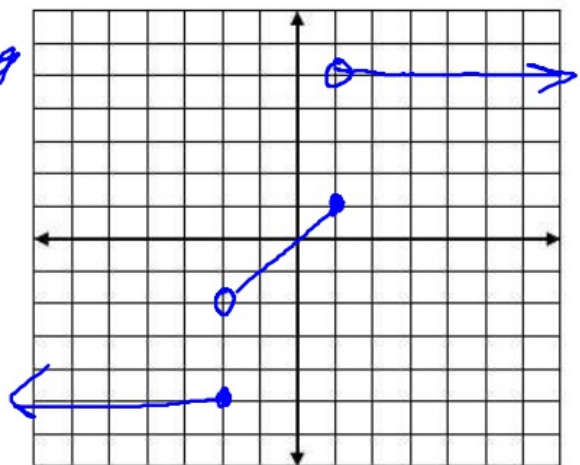
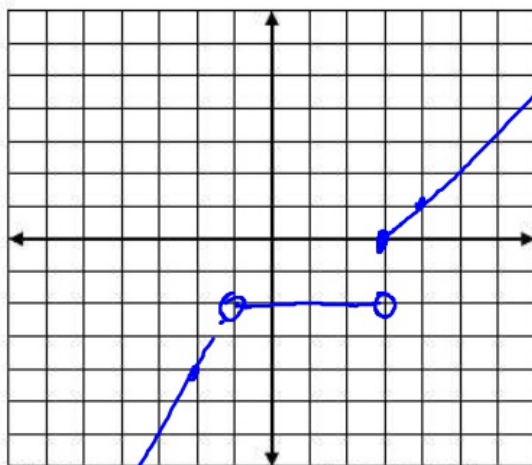
E) According to your line best fit, at what time will there be only 50 customers left in the building?

14.28 minutes

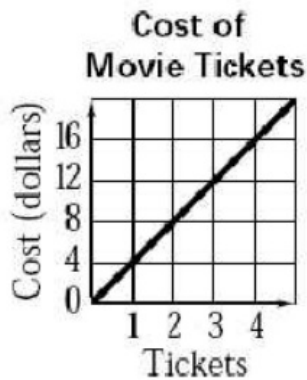
3) Graph each piecewise function below:

$$A) y = \begin{cases} 2x & , x < -1 \\ -2 & , -1 < x < 3 \\ x-3 & , x \geq 3 \end{cases}$$

$$B) y = \begin{cases} -4 & , x \leq -2 \\ x & , -2 < x \leq 1 \\ 5 & , x > 1 \end{cases}$$



1.



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

$\$4$ per ticket

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

0, means \$0 for zero tickets

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

$$y = 4x$$

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

$$y = 4(22)$$

$$y = 88$$

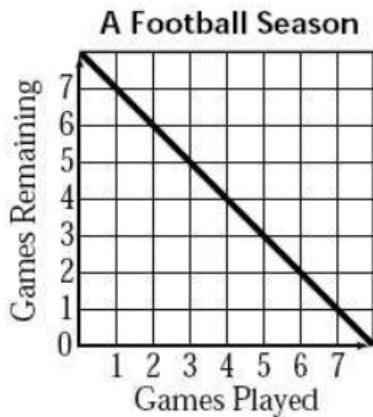
E) If you have \$50, how many tickets can you purchase?

$$50 = 4x$$

$$x = 12.5$$

12

2.



A) What is the slope in the context of the problem.

-1; Each game played, there is one less remaining.

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

8, There are 8 games scheduled.

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

8, 8 games have been played.

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

$$y = -x + 8$$

3)

Years Employed	Weekly Salary
1	\$500
2	\$550
3	\$600
4	\$650

A) Circle 2 points and find the slope.

50

$$\frac{550 - 500}{2 - 1} = \frac{50}{1}$$

B) Write the slope in the context of the problem

weekly Salary increases \$50 per year.

C) Using the EQUATION, use $Y=MX+B$ to find the y-int and the equation of the line.

$$y = 50x + 450$$

Slope 50
y int: 450

D) If you work for 12 years, what is your Expected weekly salary

$$y = 50(12) + 450$$

\$1050

E) If you make \$900 each week, how many years have you been employed?

$$900 = 50x + 450$$

x = 9 years

4)

Number of Days	Car Rental Charge
1	\$50
2	\$75
4	\$125
8	\$225

A) Use STAT to find the equation of the line.

$$y = 25x + 25$$

B) What is the slope in the context Of the problem?

\$25 per day to rent The Car.

C) What is the y-intercept as a point?

(0, 25)

D) If you rent the car for 2 weeks, how Much will you be charged?

$$y = 25(14) + 25 =$$

\$375

E) If you have a budget of \$400 for the Rental car, how many days can you rent for?

15 days

UNIT 2 REVIEW (3)
 Bridge to Algebra 2 08-09

Name: _____
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1) Find the equation of the lines

A) $m = -\frac{2}{3}$ (6, -2)

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

B) (4, -2) (-5, 10)

$$y = -\frac{4}{3}x + \frac{10}{3}$$

2) $6x - 4y = 8$

A) Solve for y

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

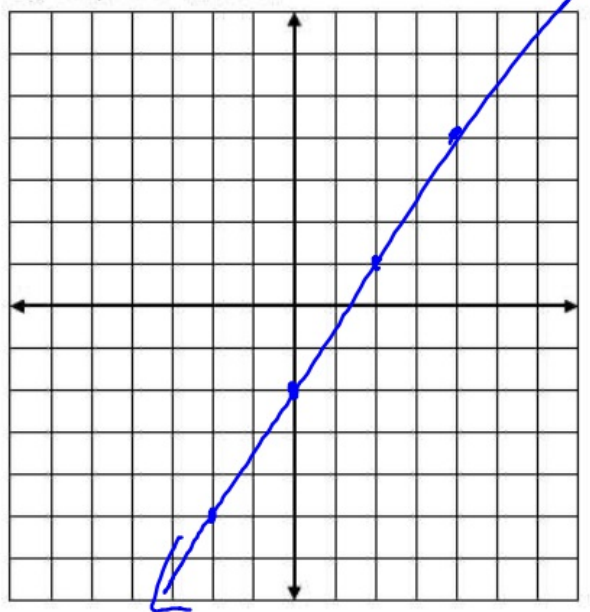
B) Find the x-intercept

$$\frac{4}{3}$$

C) Find the y-intercept

$$-2$$

D) Graph the function



3) The Springbrook Extreme Snowboard Club is taking a trip to Whitetail, a ski mountain. Below is the total price of lift tickets given the number of people.

Number of people	2	5	8	12	15
Cost of Lift Tickets	70	175	280	420	525

$$\frac{175 - 70}{5 - 2} = \frac{105}{3} = 35$$

A) Find the equation of the line

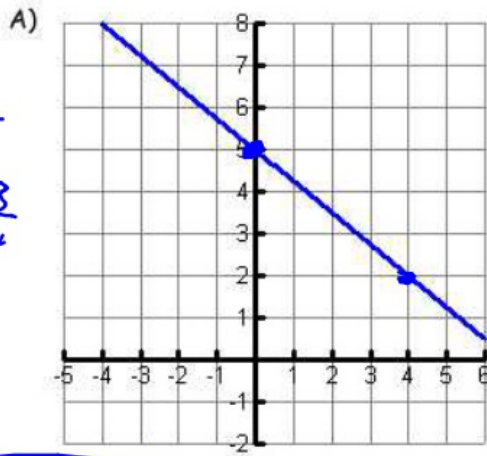
$$y = 35x$$

B) What is the meaning of the slope?

Cost of ticket per person.

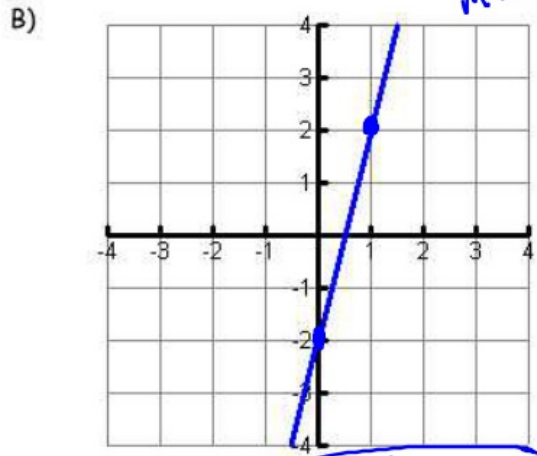
4) Find the equation of the line

$b = 5$
 $m = -\frac{3}{4}$

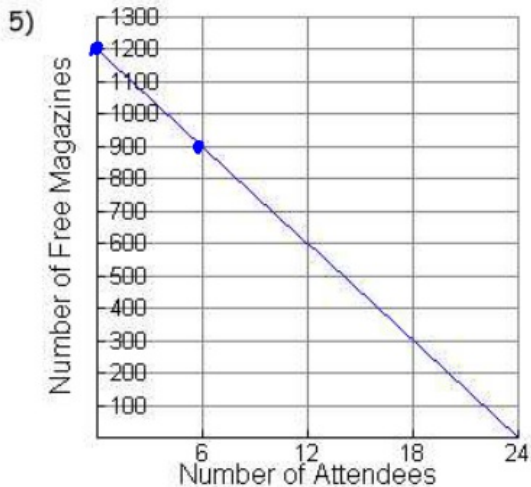


$y = -\frac{3}{4}x + 5$

$b = -2$
 $m = 4$



$y = 4x - 2$



A) Slope in context
 # of free mags per attendee.
 -50

B) X-intercept in context
 24 attendees when zero mags.

C) Y-intercept in context
 1200 mags for zero attendees.

D) Equation of the line: $y = -50x + 1200$

6) You survey a few classmates and ask them for their GPA and their SAT Verbal Score. Here is the information you find.

A) Using your calculator, find the line best fit.

$$y = 256.03x - 158.125$$

Grade Point Average	SAT Verbal Score
2.5	455
3.0	560
2.3	420
2.6	525
2.9	630
3.2	675
3.2	720
3.5	690

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

SAT score per GPA

C) According to your line of best fit, if you have a GPA of 4.0, what is your expected SAT Verbal Score?

866

$$y = 256.03(4) - 158.125$$

7) Graph the following functions:

$$A) y = \begin{cases} x-1 & , x \leq -4 \\ 2 & , -4 < x < -1 \\ -2x+4 & , x \geq -1 \end{cases}$$

$$B) y = \begin{cases} -2 & , -6 < x \leq -3 \\ 1 & , -3 < x \leq -1 \\ 3 & , -1 < x \leq 2 \\ 5 & , 2 < x \leq 5 \end{cases}$$

