Name: Date:

Class: Ms. Frost

1) *Find the slope of the line that passes through the given points:*

9) (2, 9) and (6, 11)

10) (3, −1) and (5, 0)

2) Write the equation of a line given the slope and/or a set of points:

11) (2, 9); m = 1

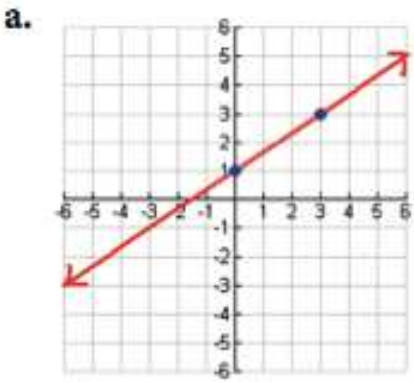
12) (3, 2) and (4, 4)

13) (0,4); m=-3

14) (2,3) and (1,4)

WRITE THE EQUATION OF THE LINE

3)

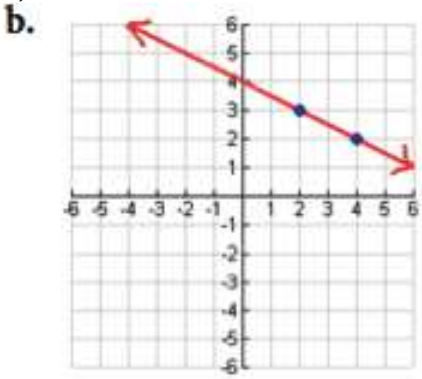


m =

b =

equation:

4)



m =

b =

equation:

1) What is an equation for the line that passes through the coordinates (2,7) and (0, 1)?

2) What is an equation for the line that passes through the coordinates (2,0) and (0,3) ?

3) What is an equation for the line that passes through the coordinates (-1,2) and (7,6) ?

4) Find the equation of the line that passes through the points (1,1) and (3,5)?

5) Find the equation of the line that passes through the points (1,3) and (2,4) ?

Write the equation of the line given the table of values

Example:

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

Example:

x	y
-2	4
-1	3.5
0	3
1	2.5
2	2

Example:

x	y
-5	-16
-2	-7
0	-1
3	8
5	14

x	y
2	5
4	13
7	25
9	33
12	45

x	y
-2	10
0	4
3	-5
6	-14
8	-20

13.

x	y
-6	12
-5	14
-4	16
-3	18
-2	20

14.

x	y
-14	3
-12	6
-10	9
-8	12
-6	15

5) Filipe is paid $1,000 every month plus an additional $150 bonus for every tractor he sells, x. Write an equation to represent the total amount of money, y, Filipe makes each month.

Answer: _____

6) A large water tank holds 600 gallons of water. It is losing water at the rate shown in the table.

Hours (x)	0	1	2	3	4
Gallons of Water in Tank (y)	600	540	480	420	360

Part A

What is the slope for the function shown in the table, and what does it represent?

A The slope is −600. It represents the amount of water in the water tank when it is full.

B The slope is 600. It represents the amount of water in the water tank when it is full.

C The slope is −60. It represents the rate at which the amount of water changes each hour.

D The slope is 60. It represents the rate at which the amount of water changes each hour.

Part B

Tell whether each statement is *True* or *False*.

a. The amount of water in the tank is decreasing at 600 gallons per hour. ☐ True ☐ False

b. After 7 hours, the amount of water left in the tank will be 180 gallons. ☐ True ☐ False

c. The initial value for the function shown in the table is −60. ☐ True ☐ False

d. The equation $y = -60x + 600$ represents the function shown in the table. ☐ True ☐ False

7) Two functions are shown below.

Function A

x	0	3	5
y	3	9	13

Function B

$y = 3x + 2$

Which statement correctly describes the rates of change of the two functions?

A The rate of change is 2 for both Function A and Function B.

B The rate of change is 3 for both Function A and Function B.

C The rate of change is greater for Function A than for Function B.

D The rate of change is greater for Function B than for Function A.

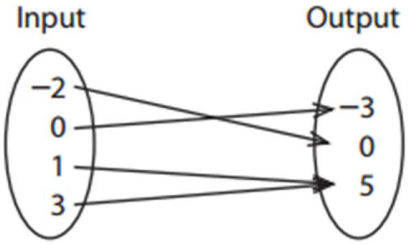
8) The saving rates for two students are shown.

Anna's Savings Account	Alec's Savings Account
$y = 7x + 4$ where x is the number of weeks Anna saves and y is the total amount in her account.	Alec opens his savings account with an initial amount of \$6 and adds \$4 per week.

Fill in the blanks to correctly compare the two students' accounts.

Anna opens her savings account with \$_____ less than Alec used to open his account. Anna adds \$_____ more per week to her account than Alec adds to his.

Tell whether each of the following statements about the diagram is *True* or *False*. 9)



a. The diagram does not represent a function because two input values map to the same output value. ☐ True ☐ False

b. The diagram represents a function because each input value maps to just one output value. ☐ True ☐ False

c. If the input and output values were switched, the diagram would represent a function. ☐ True ☐ False

10)

What is the equation of the line that passes through points **(−3, 0.5)** and **(3, −0.5)**?

A $y = -\frac{1}{6}x$

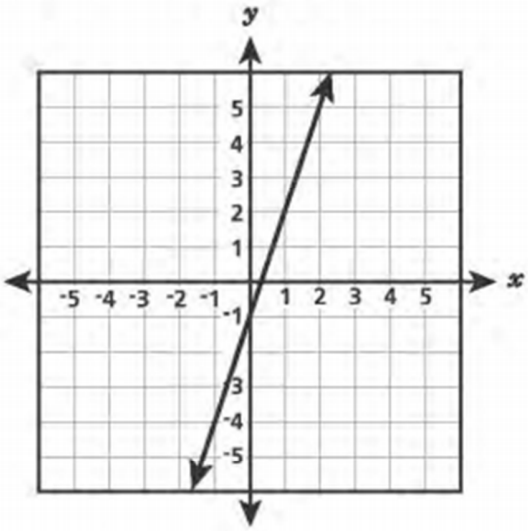
B $y = -6x$

C $y = -\frac{1}{6}x + 1$

D $y = -6x - 17.5$

11)

Function J is shown on the coordinate grid below.



If the y-intercept of Function R is $\frac{3}{2}$ greater than the y-intercept of Function J, which equation could represent Function R?

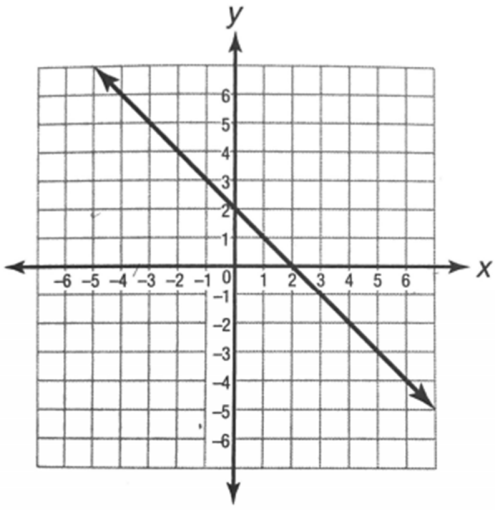
A $y = -x + 4.5$

B $y = 0.5x + 3$

C $y = 3x + 0.5$

D $y = 4.5x - 1$

Which equation best represents the line graphed below?



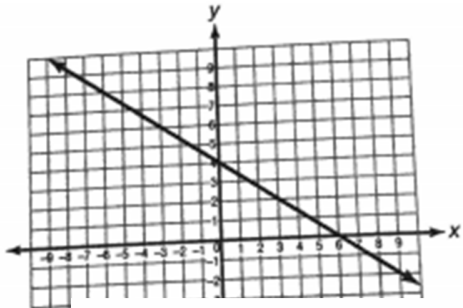
A. $y = -2x + 1$

B. $y = -x + 2$

C. $y = x + 2$

D. $y = 2x - 1$

What is the equation of the line graphed below?



A. $y = -\frac{3}{2}x + 6$

B. $y = -\frac{2}{3}x + 6$

C. $y = -\frac{3}{2}x + 4$

D. $y = -\frac{2}{3}x + 4$

Solve the following equations for x. SHOW YOUR WORK

1) 2x = 10

2) -3x+1 = -11

3) -25 = 7x + 3

SOLVING EQUATIONS WITH VARIABLES ON BOTH SIDES

1) **SIMPLIFY EACH SIDE COMPLETELY FIRST**
2) **GET YOUR VARIABLE TO ONE SIDE**
3) **SOLVE NORMALLY**

$x + 10 = 2x$

$7x - 4 = 6x + 12$

$6x + 9 = 5x + 15$

$2x + 12 = 4x + 4$

$9x + 18 = 11x$

$6x + 5 = 5x + 8 + 2x?$

$24x + 4 + 2x = 3(10x - 1)$

$2x - 5 = 3x$

$-5x - 7 = 2x$

3) $-16 + 3n = -8 - 5n$

4) $4n - 1 = 6n + 8 - 8n + 15$

5) $1 - 3x = 3x + 1$

6) $4r + 8 + 5 = -15 - 3r$

$x + 6 = 8 + 7x$;

$29 - 3x = 5x + 5.$

$6x + 5 = 5x + 8 + 2x$