

Please get out your FBF013 as well as your test corrections for the Statistics Formal.

I will come around and pick them up.

Then begin the warm-up in EOG Packet 37 - 40.

Warm UP

Complete 37-40 in your EOG Packet!

37 In which table is y a function of x ?

A

x	y
-3	6
2	5
3	2
2	3

B

x	y
-1	0
5	2
7	3
5	4

C

x	y
2	-1
3	0
4	-5
5	7

D

x	y
0	6
-1	3
2	4
-1	5

Warm UP

Complete 37-40 in your EOG Packet!

37 In which table is y a function of x ?

table
x's don't repeat

A

x	y
-3	6
2	5
3	2
2	3

B

x	y
-1	0
5	2
7	3
5	4

graph-

pass the vert. line test

C

x	y
2	-1
3	0
4	-5
5	7

D

x	y
0	6
-1	3
2	4
-1	5

RELEASED

Which function has a greater rate of change than the function that passes the points given in the table below?

x	y
4	2
6	3
8	4
10	5
12	6

- A $3x - 5y = 25$
- B $7y - 3x = 14$
- C $y = 1 + \frac{1}{2}x$
- D $y = -1 + \frac{1}{4}x$

Which function has a greater rate of change than the function that passes through the points given in the table below?

x	y
4	2
6	3
8	4
10	5
12	6

+2 ↘
+2 ↘
+2 ↘

↘ +1
↘ +1
↘ +1

bigger slope

$$m = \frac{\Delta y}{\Delta x} = \frac{1}{2}$$

$$-5y = -3x + 25 \quad y = \frac{3}{5}x - 5$$

A $3x - 5y = 25$

B $7y - 3x = 14$

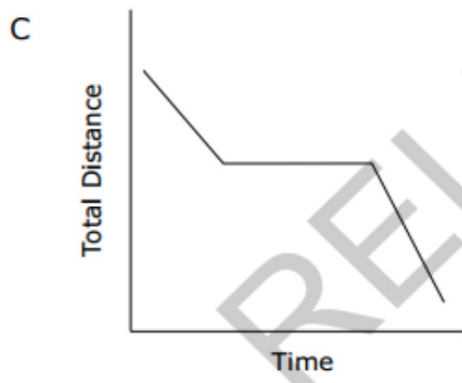
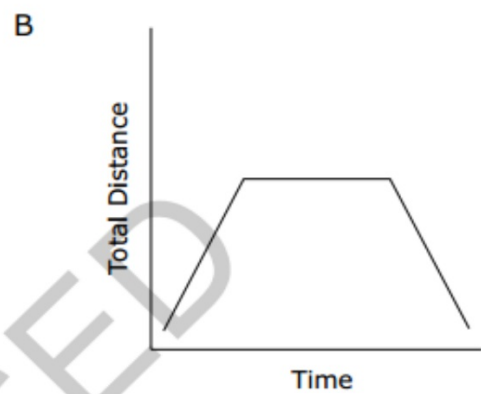
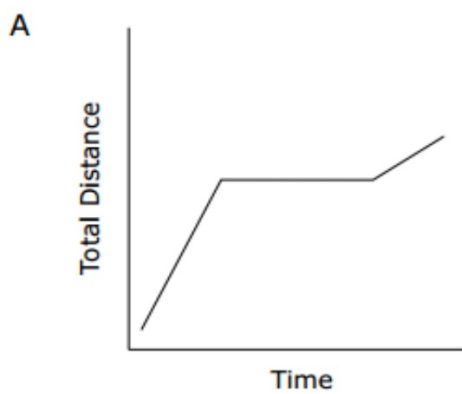
$$7y = 3x + 14 \rightarrow y = \frac{3}{7}x + 2$$

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

D $y = -1 + \frac{1}{4}x$

EASED

- 39 Larry started riding his bike at a rapid pace. He got tired and stopped to rest. When he started again, he was going at a slower rate. Which graph **best** shows Larry's trip?



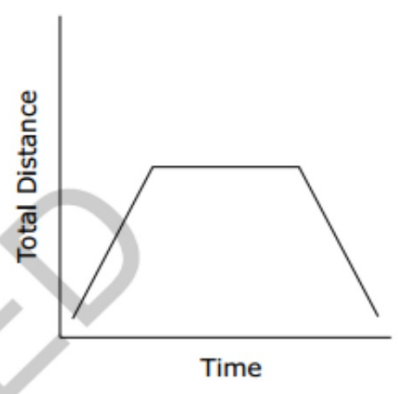
39 Larry started riding his bike at a rapid pace. He got tired and stopped to rest. When he started again, he was going at a slower rate. Which graph **best** shows Larry's trip?

slants up

less steep

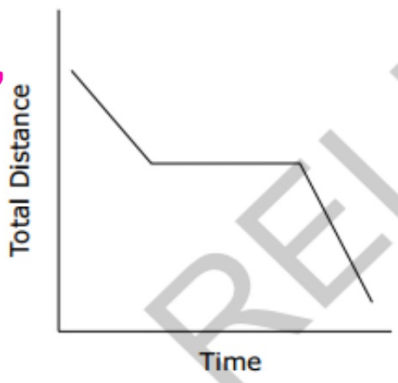
A

~~B~~



~~C~~

~~D~~



RELEASED

Alice compared the graphs of two functions.

- The first function was $y = 3x + 4$.
- The second function fits the values in the table below.

x	y
2	17
5	32
8	47
11	62

What is the distance between the y -intercepts of the two functions?

- A 1
- B 2
- C 3
- D 4

Alice compared the graphs of two functions.

- The first function was $y = 3x + 4$.
- The second function fits the values in the table below.

$$b = 4$$

x	y
2	17
5	32
8	47
11	62

$$m = \frac{15}{3} = 5$$

What is the distance between the y-intercepts of the two functions?

- A 1
- B 2
- C 3
- D 4

$$7 - 4 = 3$$

Homework Answers

1. 1

2. $\frac{1}{4}$

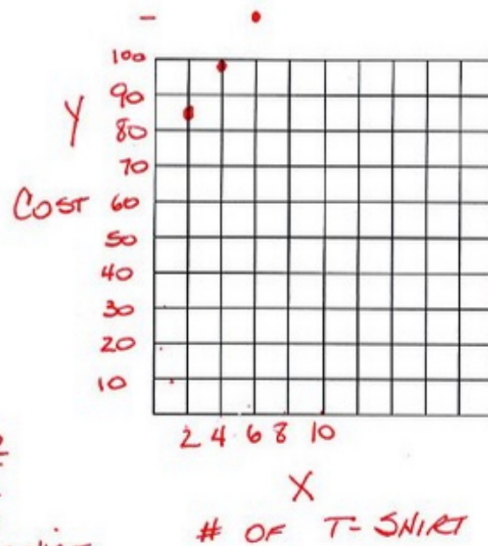
Part 1 For each t-shirt company:

- Plot the ordered pairs on the grid that is on the right of the table.
- Find the slope for this t-shirt company using the values in the table

1.

Number of t-shirts	Cost (in dollars)
x	y
2	87
4	99
6	111

2 () 12
2 () 12



$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{99 - 87}{4 - 2} = \frac{12}{2} = 6 \text{ / SHIRT}$$

3. **4**

x	5	10	15
y	23	43	63

+5 +5
+20 +20

$$m = \frac{\Delta y}{\Delta x} = \frac{4}{4}$$

6

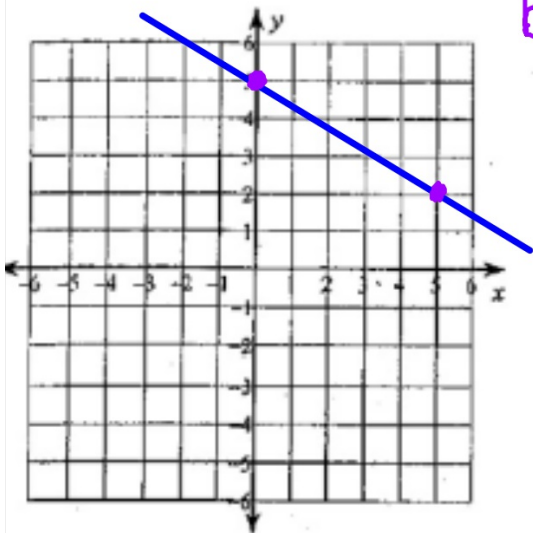
x	4	10	17
y	22	58	100

+6 +7
+36 +42

Sketch the graph of each line.

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

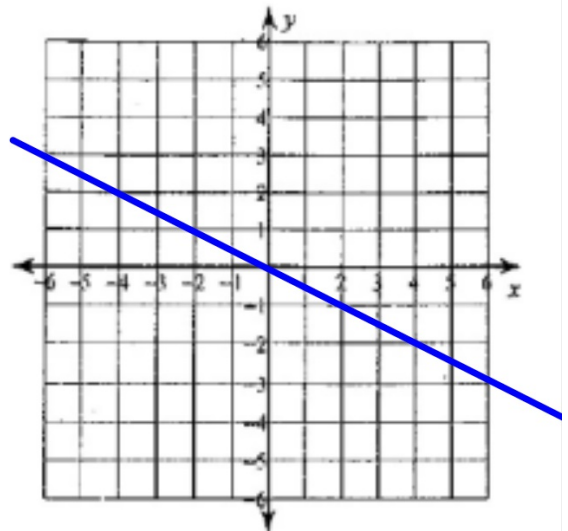
$m = \frac{\Delta y}{\Delta x} = \frac{-3}{5} \downarrow \rightarrow$
 $b = 5$



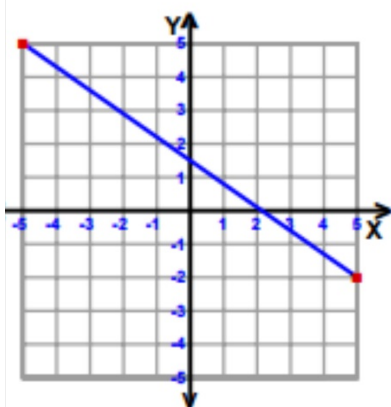
pg 2 homework

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

$b = 0$
 $m = \frac{\Delta y}{\Delta x} = \frac{-1}{2}$

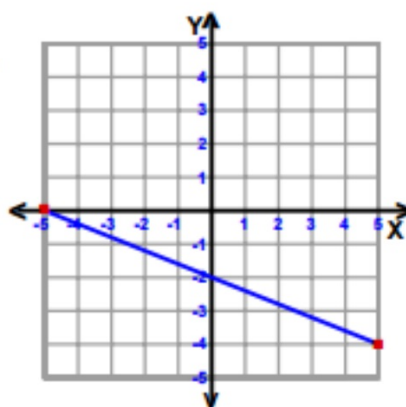


Find the Slope of Each Line

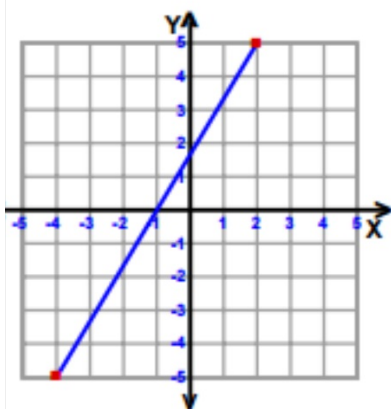


slope = $-\frac{7}{10}$

2)

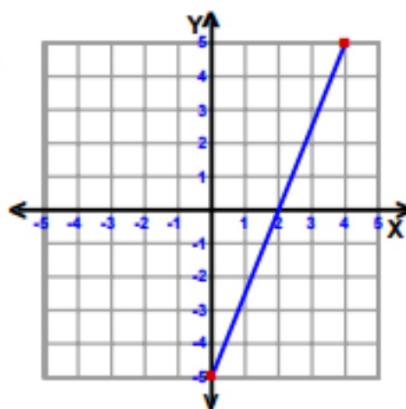


slope = $-\frac{2}{5}$



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

4)



slope = $\frac{10}{9}$

Find the equation of the straight line that has slope $m=4$ and passes through the point $(-1, -6)$

Find the equation of the straight line that has slope $m=4$ and passes through the point $(-1, -6)$

$$m=4, (-1, -6)$$

$$y = mx + b$$

$$-6 = 4(-1) + b$$

$$-6 = -4 + b$$

$$-2 = b$$

$$m=4, b=-2$$

$$y = mx + b$$

$$y = 4x - 2$$

What is the equation of the line that contains point $(2, -6)$ and has a slope of -2

What is the equation of the line that contains point $(3, -5)$ and has a slope of 3

What is the equation of the line that contains point (2, -6) and has a slope of -2

$$\begin{aligned}y &= mx + b \\ -6 &= -2(2) + b \\ -6 &= -4 + b \\ -2 &= b\end{aligned}$$

$$\begin{aligned}m &= -2, b = -2 \\ y &= -2x - 2\end{aligned}$$

What is the equation of the line that contains point (3, -5) and has a slope of 3

$$\begin{aligned}y &= mx + b \\ -5 &= 3(3) + b \\ -5 &= 9 + b \\ -14 &= b\end{aligned}$$

$$\begin{aligned}m &= 3, b = -14 \\ y &= 3x - 14\end{aligned}$$

Find the equation of the line that passes through the points $(-2, 4)$ and $(1, 2)$

Find the equation of the line that passes through the points (-2, 4) and (1, 2) $m = -\frac{2}{3}$ $b =$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - 2}{-2 - 1} = \frac{2}{-3} = -\frac{2}{3} \quad 2\frac{2}{3} = \frac{8}{3}$$

$$m = -\frac{2}{3}, (1, 2)$$

$\begin{matrix} x & y \end{matrix}$

$$y = mx + b$$

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

$$2 = -\frac{2}{3} + b$$

$$\frac{8}{3} = b$$

$$m = -\frac{2}{3}, b = \frac{8}{3}$$

$$y = -\frac{2}{3}x + \frac{8}{3}$$

What is an equation of the line passing through the point $(-2, -5)$ and $(1, 4)$?

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - (-5)}{1 - (-2)} = \frac{4 + 5}{1 + 2} = \frac{9}{3} = 3$$

$$m = 3, (1, 4)$$

$x \quad y$

$$\begin{aligned} y &= mx + b \\ 4 &= 3(1) + b \\ 4 &= 3 + b \\ 1 &= b \end{aligned}$$

$$\begin{aligned} m &= 3, b = 1 \\ y &= mx + b \\ y &= 3x + 1 \end{aligned}$$

What is an equation of the line passing through the point $(-1, -5)$ and $(3,5)$?



What is an equation of the line passing through the point $(-5, 3)$ and $(5, -2)$?



What is an equation of the line passing through the point $(-1, 0)$ and $(1,2)$?



What is an equation of the line passing through the point $(5, 1)$ and $(-3,4)$?



Your turn!

Find the equation of the line that passes through the following points

1) (0,1) (-2,3)

slope =

6)

(2,1) (-1,-5)

slope =

7) (0,-5) (5,5)

slope =

8)

(5,1) (-3,4)

slope =

9) (-5,3) (5,-5)

slope =

10)

(-3,-5) (-5,5)

slope =

3 Different Forms for Linear Equations

1) Slope-intercept Form: $y=mx + b$

2) Standard Form: $Ax +By = C$

3) Point-Slope Form: $y - y_1 = m (x - x_1)$

To graph an equation in

1. Replace x in the equation with 0. This will give you the y intercept.
2. Replace y in the equation with 0. This will give you the x intercept.
3. Graph

Graph the following equations:

1. $2x + 3y = 6$

2. $5x + 2y = 10$

x-int., let $y=0$

$$2x + 3(0) = 6$$

$$2x = 6 \quad (3, 0)$$

$$x = 3$$

y-int., let $x=0$

$$2x + 3y = 6 \quad (0, 2)$$

$$2(0) + 3y = 6$$

$$y = 2$$

3. $3x + 7y = 21$

4. $8x + 4y = 24$

Convert Standard Form to Slope Intercept Form and then graph

1. $2x + 3y = 6$

$$3y = -2x + 6$$

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

2. $5x + 2y = 10$

$$2y = -5x + 10$$

$$\frac{2y}{2} = \frac{-5x}{2} + \frac{10}{2}$$

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

3. $3x + 7y = 21$

4. $8x + 4y = 24$

Homework:

pg. 1

Find the equation that passes through the points.

1) (-1,-5) (0,5) slope = _____

2) (-5,-3) (5,-1) slope = _____

3) (5,-3) (-3,-2) slope = _____

4) (5,-5) (1,5) slope = _____

5) (5,3) (2,4) slope = _____

6) (-5,-1) (5,-5) slope = _____

Find the x and y intercept for the following equations and then graph the equation.

pg 2

1. $5x + 2y = 10$

2. $2x + 8y = 24$

3. $4x + 3y = 24$

4. $9x + 3y = 18$

1. Compare the two functions and determine which has the greater rate of change

Function 1: $y = 2x + 4$

Function 2: x -1 0 2
 y -6 -3 3

2. Compare the two linear functions below and determine which has a negative rate of change

Function 1: Sam starts with \$20 on a gift card for the bookstore. He spends \$3.50 per week to buy a magazine. Let y be the amount remaining as a function of the number of weeks x .

x	0	1	2	3
y	20	16.50	13.00	9.50

Function 2: The school bookstore rents graphing calculators for \$5 per month. It also collects a non-refundable fee of \$10.00 for the school year. Write the rule for the total cost (c) of renting a calculator as a function of the number of months

3. Which function has a greater rate of change

a. $5x + 2y = 10$

b. $2x + 8y = 24$

