

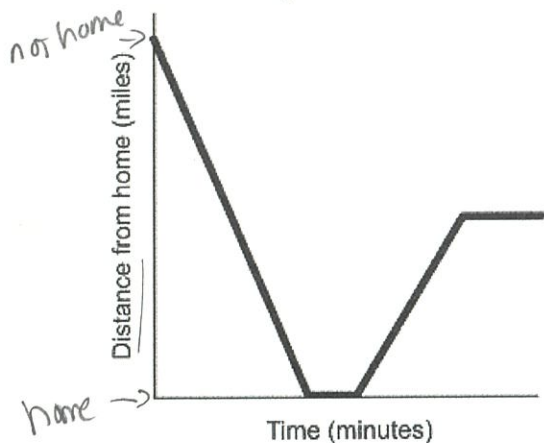
Name key  
Mrs. Roubos

Date \_\_\_\_\_  
8R Period \_\_\_\_\_

Classwork Day 6

Match the graph below with the best description of the relationship it shows.

1. **Trey's Bike Ride**



- a. Trey goes from home to a store, and then stops at a friend's house on the way home.
- b. Trey goes from home to a friend's house, and then rides to a store,
- c. Trey goes from a friend's house toward home, stops at a store on the way home, then goes home.
- d. Trey goes from a friend's house to home, gets a coat, rides to a store, and goes inside.

Steps: pick the choice that best represents the graph

2. Max's weekly earnings are described by the equation  $y = 4x + 75$ , where  $x$  is the number of hours he works. If Max earned \$195 one week, how many hours did he work?

y

x

30 hours

$$y = 4x + 75$$

$$195 = 4x + 75$$

$$\underline{-75} \quad \underline{-75}$$

$$120 = 4x$$

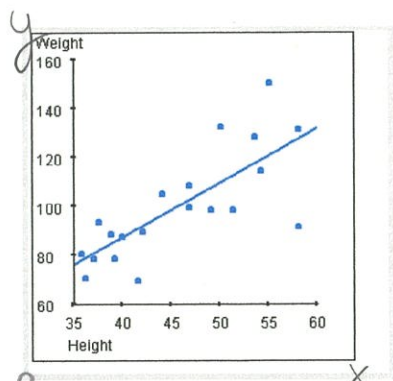
$$\underline{\quad} \quad \underline{\quad}$$

$$x = 30$$

\*\*Steps: substitute the \$ into y & then solve for x

3. What relationship can be made in terms of Height? Weight?

- As the height increases, the weight also increases
- positive relationship



\*\*Steps: Describe the correlation/relationship

4. The table below shows how much Mary pays to rent DVDs.

Create an expression that can be used to find the total cost of renting any number  $n$  of DVDs?

$$y = mx + b$$

$$m = 1$$

$$b = 3$$

$$y = 1x + 3$$

$$\boxed{1n + 3}$$

$(3, 6)$   $(6, 9)$   
 $x_1, y_1$   $x_2, y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{9 - 6}{6 - 3} = \frac{3}{3} = 1$$

$$y = mx + b$$

$$6 = (1)(3) + b$$

$$6 = 3 + b$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

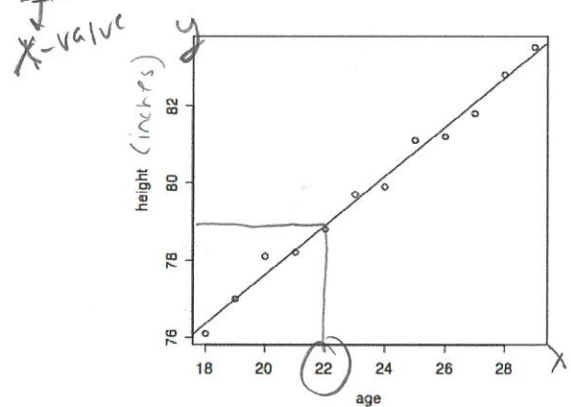
$$b = 3$$

# $n$	\$
3	6
6	9
9	12
12	15

\*\*Steps: Find the slope + y-int. use  $n$ , not  $x$  in the expression. NO = sign.

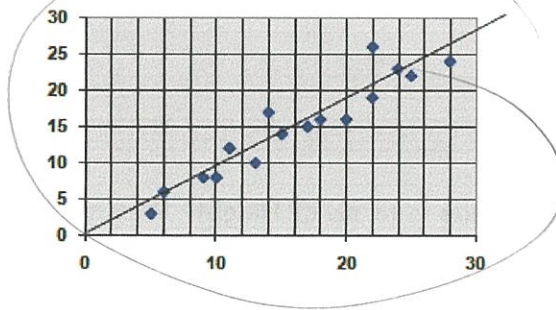
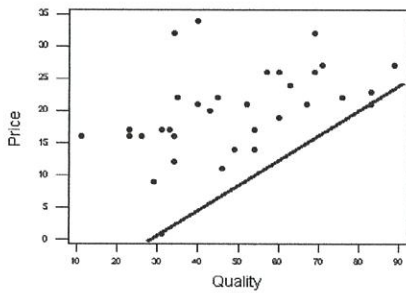
5. Using the trend line, what would someone's height be at 22 yrs old?

Line of best fit  
 $\approx \boxed{79 \text{ in}}$



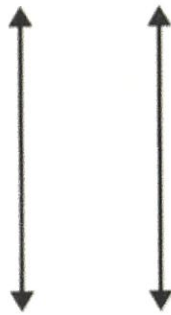
\*\* Steps: Follow the x-value up to the trend line + go over to the left until you get the corresponding y-value

6. Which graph shows the correct line of best fit for the data?



\*\*Steps: The line of best fit must go through the middle of the points

7. How many solutions do the following systems of equations have?



Zero/None

\*\*Steps: Parallel lines never intersect, so they will not have any solutions

8. A phone company charges a one-time set-up fee and a monthly service charge.

The total cost is modeled by the function  $y = 20 + 10x$ . Which statement represents the meaning of each part of the function?

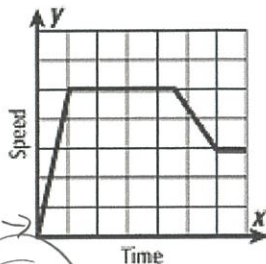
- total cost ← y    b fee    m monthly → # of months*
- ~~(1)~~ y is the total cost, x is the number of months of service, \$10 is the installation fee, and \$20 is the service charge per month.
  - (2)** y is the total cost, x is the number of months of service, \$20 is the installation fee, and \$10 is the service charge per month
  - (3) x is the total cost, y is the number of months of service, \$20 is the installation fee, and \$10 is the service charge per month
  - ~~(4)~~ x is the total cost, y is the number of months of service, \$10 is the installation fee, and \$20 is the service charge per month

\*\* Steps: the y int is the fee & the slope is the monthly charge.  
*y = total cost    x = # of months*

Now you try!

9.

Which of the following situations corresponds to this graph?



at a stop →

- a.** A car accelerates from a stop, travels at a constant speed, slows, and then travels at a slower speed.
- b. An airplane travels at a constant speed then decelerates to a slower speed.
- c. An athlete warms up by walking around the track, runs, then jogs.
- d. A bicyclist accelerates, travels at a constant speed, then slows to a stop.

10. Max's weekly earnings are described by the equation  $y = 6x + 300$ , where  $x$  is the number of hours he works. If Max earned \$570 one week, how many hours did he work?

$y$   $x$   
45 hours

$$y = 6x + 300$$

$$570 = 6x + 300$$

$$\frac{-300}{-300} \quad \frac{-300}{-300}$$

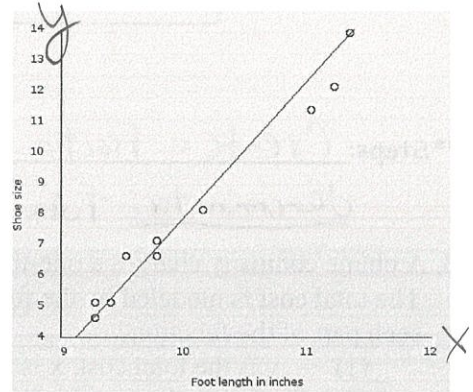
$$\frac{270}{6} = \frac{6x}{6}$$

$$x = 45$$

11. What relationship can be made in terms of foot length?

Show size?

\* positive relationship  
 \* As the foot length increases, the shoe size also increases



12. The table below shows how much Mary pays to rent DVDs.

Create an expression that can be used to find the total cost of renting any number  $n$  of DVDs?

$$y = mx + b$$

$$m = \frac{5}{2}$$

$$b = 3$$

$$y = \frac{5}{2}x + 3$$

$$\frac{5}{2}n + 3$$

$(0, 3)$   $(2, 8)$   
 $x_1, y_1$   $x_2, y_2$

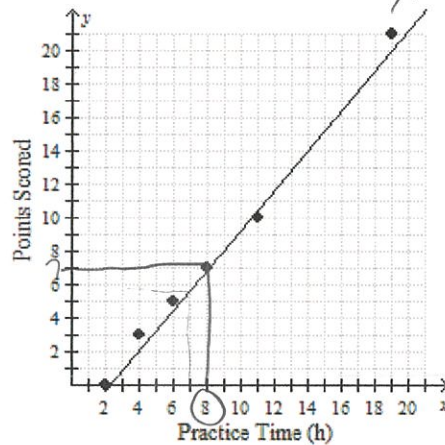
$$m = \frac{y_2 - y_1}{x_2 - x_1} \quad m = \frac{8 - 3}{2 - 0} \quad m = \frac{5}{2}$$

#n	\$
0	3
2	8
4	13
6	18

13. Using the trend line, how many points would someone score who practiced for 8 hours?

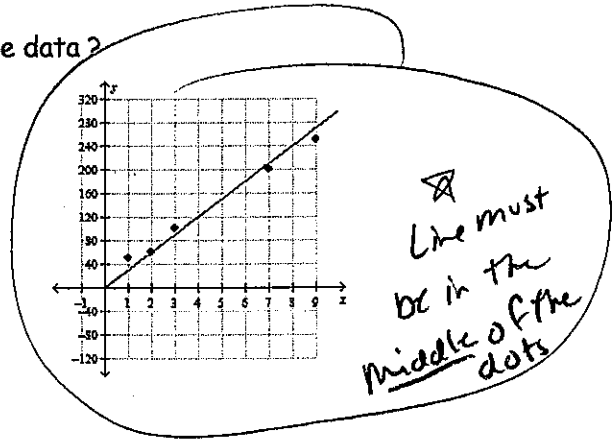
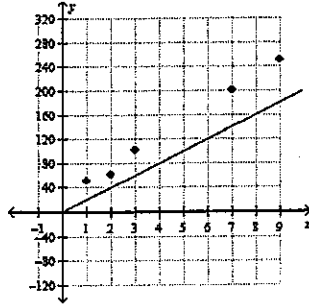
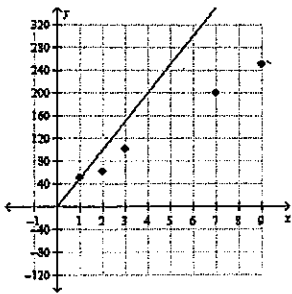
L.O.B.F.

≈ 7 points

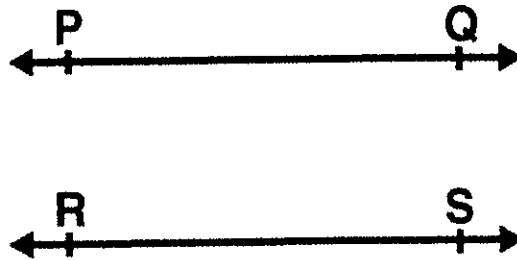




14. Which graph shows the correct line of best fit for the data?



15. How many solutions does the following systems of equations have?



Zero/None

  
 Because they don't intersect

16. A phone company charges a one-time set-up fee and a monthly service charge. The total cost is modeled by the function  $y = 50 + 30x$ . Which statement represents the meaning of each part of the function?

- (1) ~~y is the total cost, x is the number of months of service, \$30 is the installation fee, and \$50 is the service charge per month.~~
  - (2) ~~x is the total cost, y is the number of months of service, \$30 is the installation fee, and \$50 is the service charge per month~~
  - (3) ~~x is the total cost, y is the number of months of service, \$50 is the installation fee, and \$30 is the service charge per month~~
  - (4) y is the total cost, x is the number of months of service, \$50 is the installation fee, and \$30 is the service charge per month
- y-axis → total cost  
 x-axis → # of months  
 y-int (b) constant  
 slope (m) coeff.

