

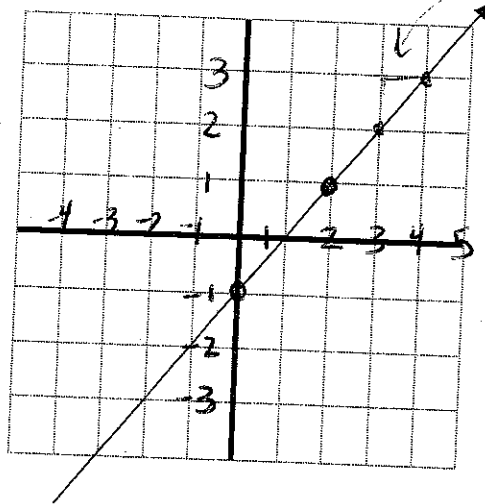
Practice Moving Straight Ahead Unit Test

Does it make a difference what two points you choose on a straight line to find the slope of a line? Use the line below to help explain your answer.

It does not matter which two points you choose on a line to find the slope.

points $(0, -1)$ $(2, 1)$

$$\frac{-1 - 1}{0 - 2} = \frac{-2}{-2} = 1$$



$$\frac{\text{Rise } 1}{\text{run } 1} = 1$$

$$\frac{\text{rise } 2}{\text{run } 2} = 1$$

Write an equation for the line above.

Slope of a line $y = mx + b$

Hints: y-intercept = -1 slope = 1

$$y = 1x + -1$$

OR

$$y = x - 1$$

Practice Moving Straight Ahead Unit Test

Solve the following equations for x . **SHOW YOUR WORK** and **CHECK YOUR ANSWER!!!**

$$\begin{array}{r} 14 - 2x = 12x \\ + 2x \quad + 2x \\ \hline 14 = 14x \\ \frac{14}{14} \quad \frac{14}{14} \\ \hline 1 = x \end{array}$$

check your answer

$$14 - (2 * 1) = 12 * 1$$

$$14 - 2 = 12$$

$$12 = 12$$

yes it works!
So my answer must be correct.

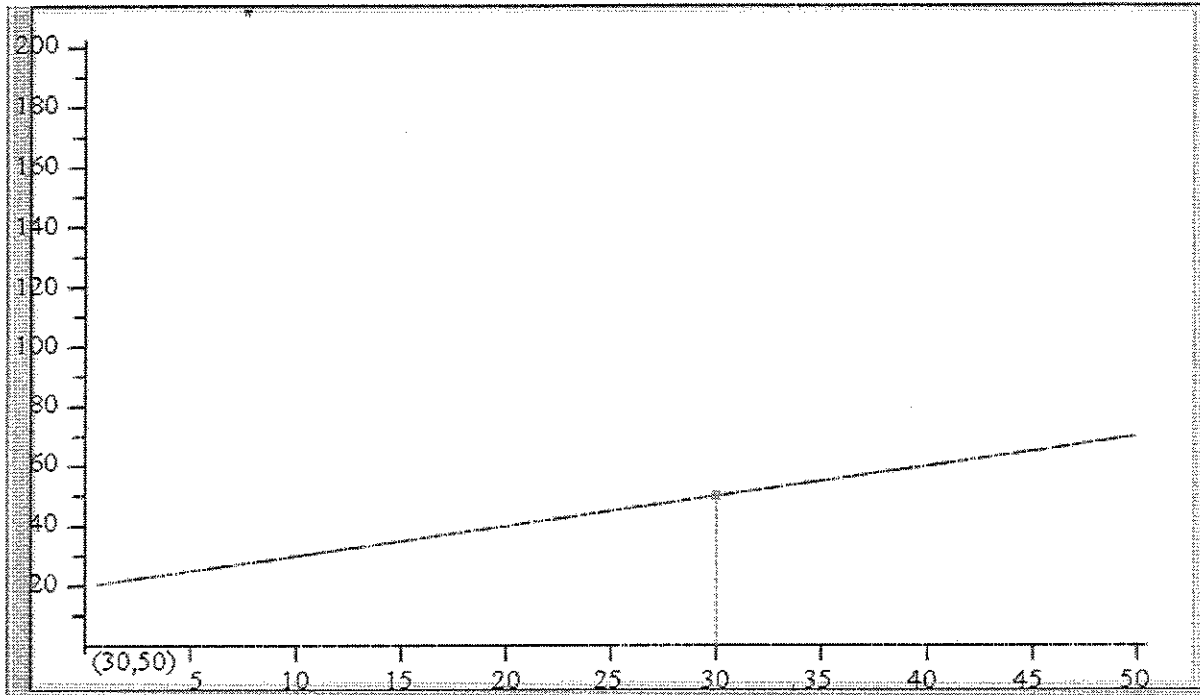
$$\begin{array}{r} 3x - 2 = 6x + 4 \\ - 3x \quad - 3x \\ \hline -2 = 3x + 4 \\ - 4 \quad - 4 \\ \hline -6 = 3x \\ \frac{-6}{3} \quad \frac{3x}{3} \\ \hline -2 = x \end{array}$$

$$\begin{array}{r} 2x + 21 = 6x + 1 \\ - 2x \quad - 2x \\ \hline 21 = 4x + 1 \\ - 1 \quad - 1 \\ \hline 20 = 4x \\ \frac{20}{4} \quad \frac{4x}{4} \\ \hline 5 = x \end{array}$$

check
total = 30 + 1
31 = 31
yes!!

$$\begin{array}{r} 5(x - 1) = 10 \\ 5x - 5 = 10 \\ + 5 \quad + 5 \\ \hline 5x = 15 \\ \frac{5x}{5} \quad \frac{15}{5} \\ \hline x = 3 \end{array}$$

Practice *Moving Straight Ahead Unit Test*



John is studying walking rates and entered the equation $y=20+x$ into his graphing calculator and produced this graph. He highlighted the point on the graph. x =time y =distance

- a. What question could John be trying to answer by using this graph and point?

John could be trying to answer the question, "If someone walks for 30 minutes what will be their distance?"

Or he could be answering the questions, "If someone has gone 50 meters, how long did they walk for?"

- b. Write the question for part(a) as an equation that could be used to find the answer.

$$y = 20 + 30 \quad y=50$$

OR

$$50 = 20 + x \quad x=30$$

A.

| x | y |
|----|---|
| -2 | 2 |
| -1 | 2 |
| 0 | 2 |
| 1 | 2 |
| 2 | 2 |

B.

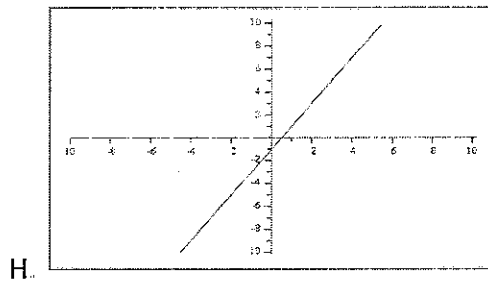
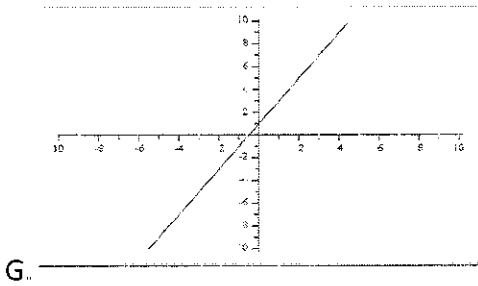
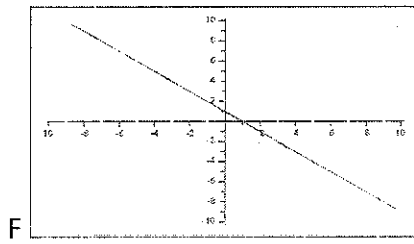
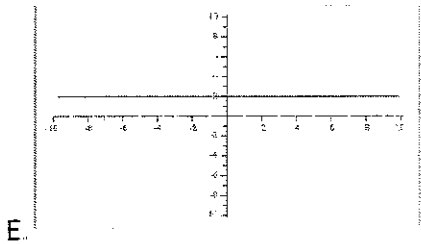
| x | y |
|----|----|
| -2 | -3 |
| -1 | -1 |
| 0 | 1 |
| 1 | 3 |
| 2 | 5 |

C.

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

D.

| x | y |
|----|----|
| -2 | 3 |
| -1 | 2 |
| 0 | 1 |
| 1 | 0 |
| 2 | -1 |



$$y = 2x - 1$$

$$y = 2x + 1$$

$$y = 2$$

$$y = -x + 1$$

| | |
|---------|---------|
| Group 1 | a, e, k |
| Group 2 | b, j, g |
| Group 3 | c, h, i |
| Group 4 | d, f, l |

Match a table with a graph and an equation. List the results in the table above.

The YMCA is offering a special price on memberships. The membership cost \$55 a year plus \$2 per visit. For non-members, the cost to visit the YMCA is \$6.50.

- a. Make a table that shows the number of visits V and the cost for members (C_1) and non-members (C_2). (0-14 visits)

| Visits | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|-------------|----|-----|----|------|----|------|----|------|----|------|----|------|----|------|----|
| members | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 |
| Non-members | 0 | 6.5 | 13 | 19.5 | 26 | 32.5 | 39 | 45.5 | 52 | 58.5 | 65 | 72.5 | 78 | 84.5 | 91 |

- b. On the same set of axes, graph the relationship of cost and number of visits for members and non-members. **See attached graph**
- c. Write an equation that shows the number of visits V and the cost for members (C_1) and non-members (C_2).

$$C_1 = 55 + 2v$$

$$C_2 = 6.50v$$

- d. What is the slope of each line of the equations in part (c)?

$$C_1 \text{ slope} = 2$$

$$C_2 \text{ slope} = 6.5$$

- e. What information does the slope of each line represent in this context?

C_1 - as the # of visits increases by one, the cost increases by \$2

C_2 – as the # of visits increases by one, the cost increases by \$6.50

- f. Explain how you could find the slope from a table. A graph? An equation?

Table- using any two points find the difference between the y values and the difference between the x values. $\text{Slope} = \text{Rise/Run} = \text{dif. in y values/dif. in x values}$

Graph- find the vertical and horizontal difference between any two points.

Equation- the slope is the number multiplied by x.

- g. What information does the y-intercept of each line represent in this context?

C_1 – y-intercept (55) indicates that without any visits the cost is \$55.

C_2 – y-intercept (0) indicates that without any visits the cost is \$0.

visits

