

Test Review: Equations in Two Variables

Determine if the data set below has a linear relationship. if so, then find the constant rate of change.

①

x	y
1	2
3	4
5	6
7	10

②

x	y
-6	10
-3	8
0	6
3	4

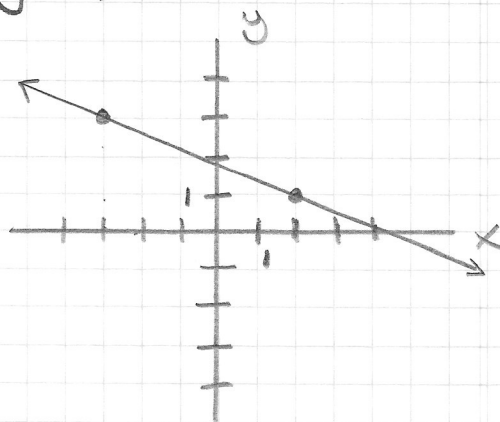
Find the slope of each line given:

③ $(-6, 3)$ & $(-9, 8)$

⑤

x	y
-8	4
-3	6
2	8
7	10

④



For each problem, y varies directly with x . Write the equation for Direct Variation. Find the indicated value.

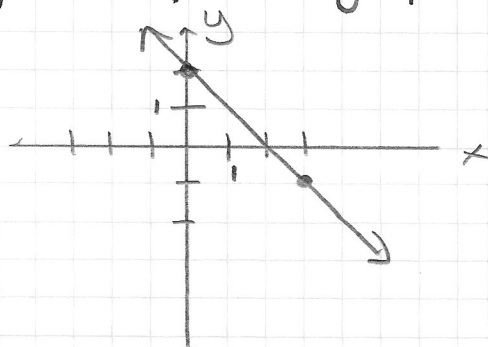
⑥ if $y=3$ when $x=6$, then find y when $x=-8$

⑦ if $y=10$ when $x=4$, then find x when $y=15$.

State the slope (m) & y -intercept (b) of each graph.

⑧ $2x - 5y = 10$

⑨



(next)

Graphing Lines. Graph each line using the given method.

⑩ $y = -\frac{3}{5}x + 4$ (slope & y-int)

⑪ $2x - 3y = 12$ (slope & y-int)

⑫ $x + 2y = 2$ (x & y-ints.)

⑬ $3x - 4y = 12$ (x & y-ints)

Write each linear equation in Point-Slope Form,
Slope-Intercept Form & Standard Form.

⑭ $m = 3$; y-int: 4

⑮ $m = -2$; pass.th. $(2, 1)$

⑯ $m = \frac{1}{4}$; pass.th. $(-4, 1)$

⑰ pass.th. $(-6, 3)$ & $(-5, 6)$

Solve each System of Equations by Graphing. Check Sol'ns.

⑱ $y = 3x - 1$
 $y = x + 3$

⑲ $x + y = -1$
 $2x + y = -3$

(next)

Line of Best Fit. You work in a restaurant. Your earnings from tips is shown in this table:

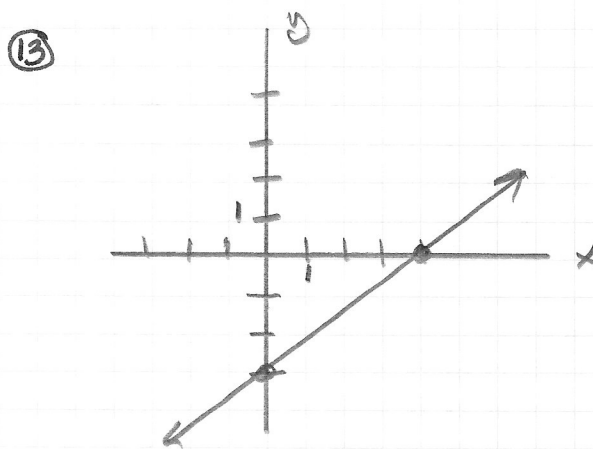
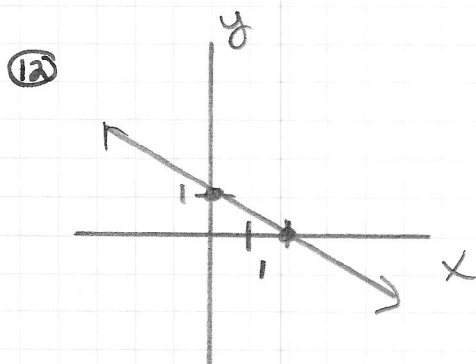
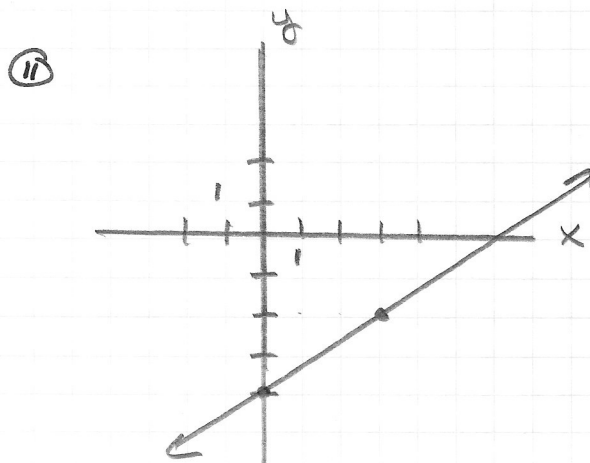
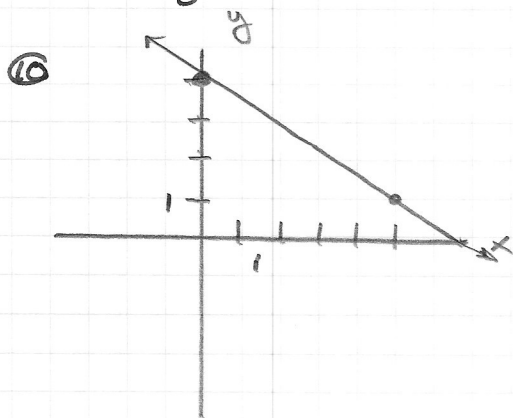
hours worked	tips earned (\$)
0	0
1	10
2	17
3	25
4	35
5	50

- 20 Construct a scatter plot of this data
- 21 Draw a Line of Best Fit that best represents the data.
- 22 Write an equation of the line in Slope-Intercept Form for your Line of Best Fit.
- 23 Use your equation from #22 to determine how much you will earn in tips after 8 hours of work.
- 24 What does the slope represent in this problem.

(next)

Answers:

- ① NO ② Yes ; $-\frac{2}{3}$ ③ $m = -\frac{5}{3}$ ④ $m = -\frac{2}{5}$
⑤ $m = \frac{2}{5}$ ⑥ $y = \frac{1}{2}x$; $y = -4$ ⑦ $y = -\frac{5}{2}x$; $x = -6$
⑧ $m = \frac{2}{5}$; $b = -2$ ⑨ $m = -1$; $b = 2$ ~~⑩~~



⑭ $y - 4 = 3(x - 0)$
 $y = 3x + 4$
 $3x - y = -4$

⑮ $y - 1 = -2(x - 2)$
 $y = -2x + 5$
 $2x + y = 5$

⑯ $y - 1 = \frac{1}{4}(x + 4)$
 $y = \frac{1}{4}x + 2$
 $x - 4y = -8$

⑰ $y - 6 = 3(x + 5)$ OR $y - 3 = 3(x + 6)$
 $y = 3x + 21$
 $3x - y = -21$

(next)

18

~~18~~

(2,5)

19

~~19~~

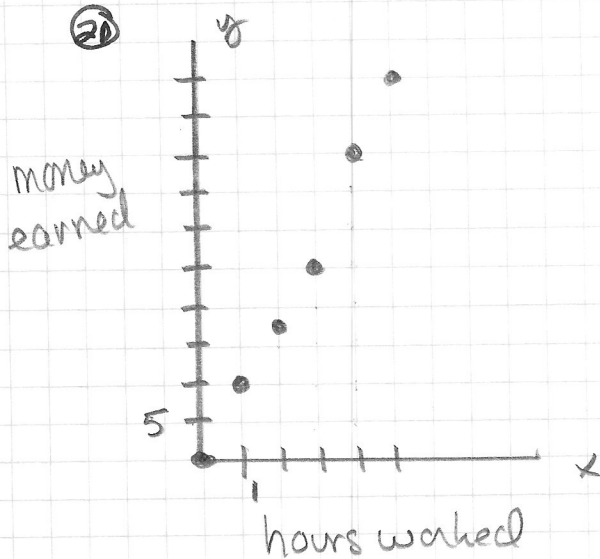
(-2,1)

20

~~20~~

Answers will vary

20



22

~~22~~

pts used: (1,10) & (5,50) 23 \$80 earned

$$y = 10x$$

24 slope represents rate of change of your tips to hours worked
(in my case, \$10 per hour earned in tips)