

Get out your homework from last night. Grab a half sheet from the front table and start warming up. We will have a target check tomorrow on constant rate of change and slope.

Classwork - Slope Practice Problems

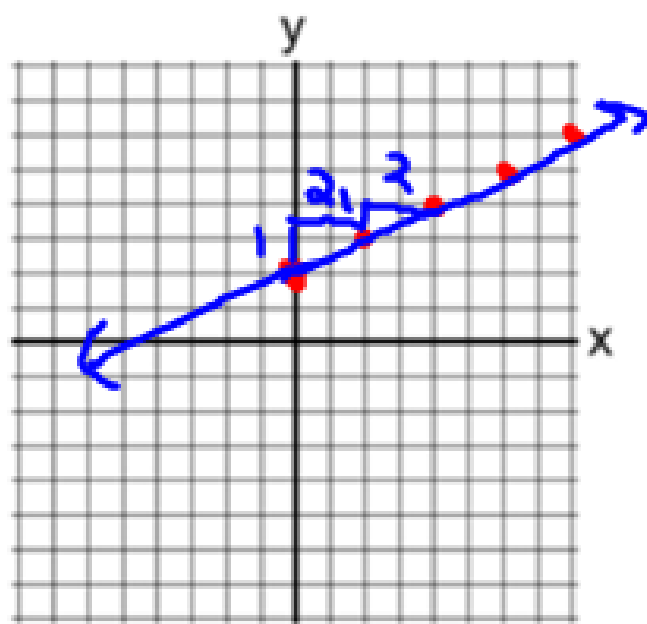
(x, y)

Slope $\rightarrow \frac{\text{rise}}{\text{run}}$

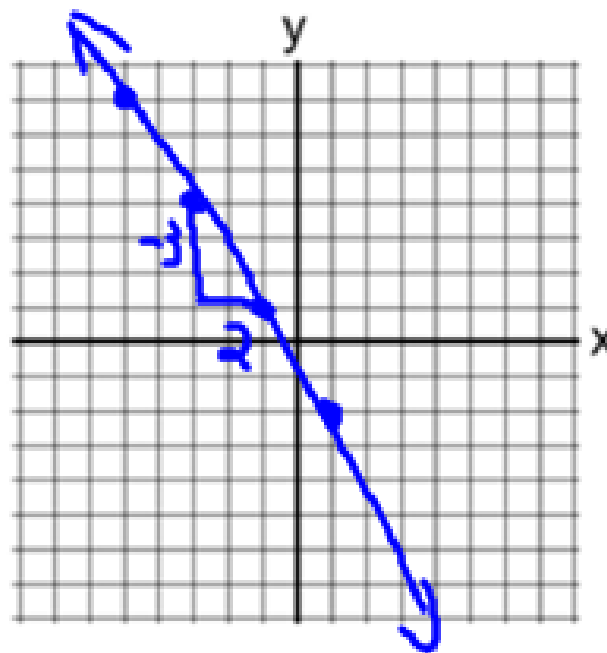
Example: $\frac{2}{3} \rightarrow$ Go up 2, then right 3 to plot a new point

$$m = \frac{4}{1}$$

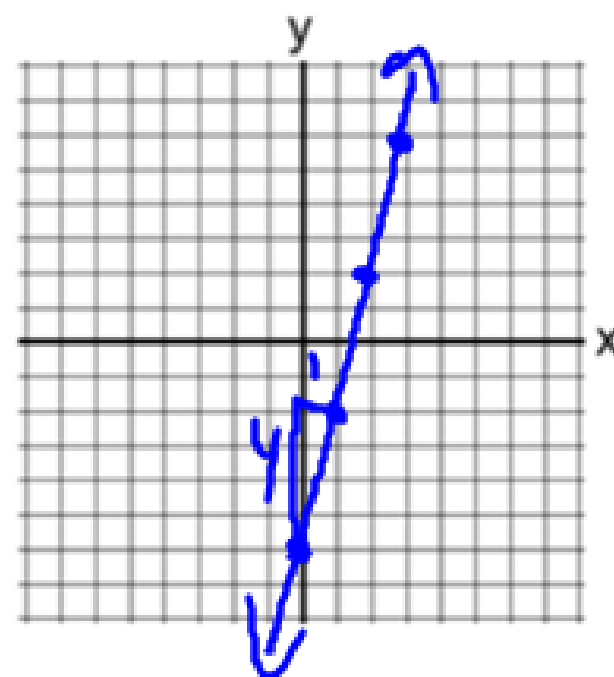
1) $(0, 2)$ and $m = \frac{1}{2}$



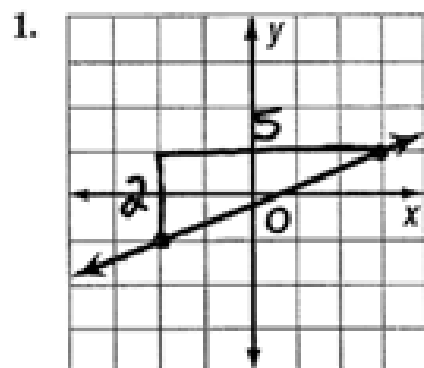
1) $(-3, 4)$ and $m = -\frac{3}{2}$



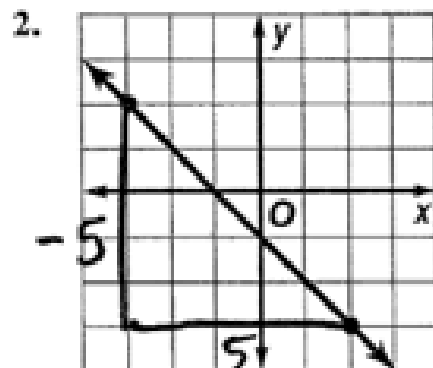
1) $(0, -6)$ and $m = 4$



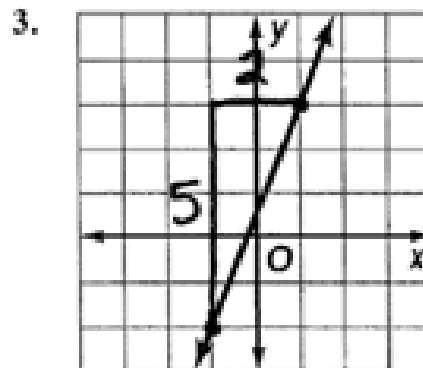
Find the slope of each line. The variable m represents slope.



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



$m = -1$



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

The points given in each table lie on a line. Find the slope of the line. Then graph the line.

4.

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

$m = 1$

5.

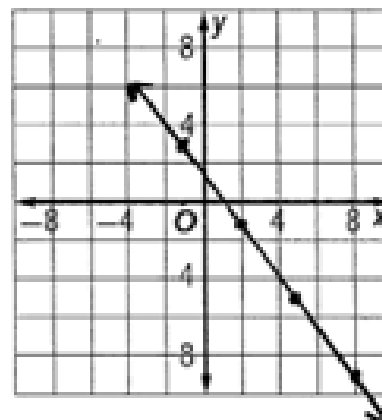
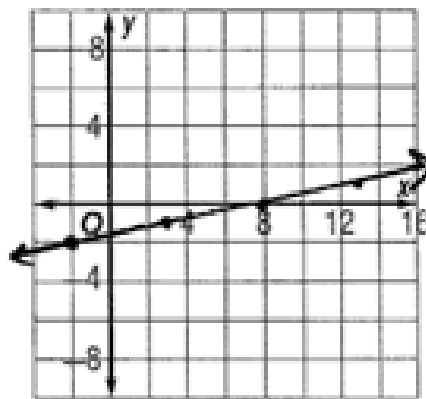
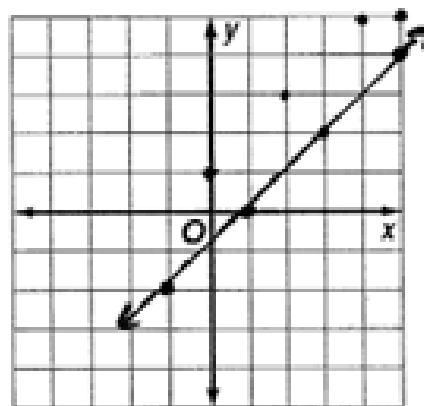
	+5	+5	+5	
x	-2	3	8	13
y	-2	-1	0	1
	+1	+1	+1	

$m = \frac{1}{5}$

6.

	+3	+3	+3	
x	-1	2	5	8
y	3	-1	-5	-9
	-4	-4	-4	

$m = -\frac{4}{3}$



NAME _____

DATE _____

PERIOD _____

Find the slope of the line that passes through each pair of points.

9. $A(1, 3), B(4, 7)$

$$\frac{7-3}{4-1} = \frac{4}{3}$$

10. $C(3, 5), D(2, 6)$

$$\frac{6-5}{2-3} = \frac{1}{-1} = -1$$

11. $E(4, 0), F(5, 5)$

$$\frac{5-0}{5-4} = \frac{5}{1} = 5$$

12. SNOWFALL. Use the graph at the right. It shows the depth in feet of snow after each two-hour period during a snowstorm.

- a. Find the slope of the line.

$$m = \frac{1}{4}$$

$$\frac{0.5}{2} = \frac{1}{4} \quad \frac{1}{4} = \frac{1}{4}$$

- b. Does the graph show a constant rate of change? Explain.

Yes, as the hours increase by 1, the ~~the~~ depth increases by $\frac{1}{4}$ of a ft.

- c. If the graph is extended to the right, could you expect the slope to remain constant? Explain.

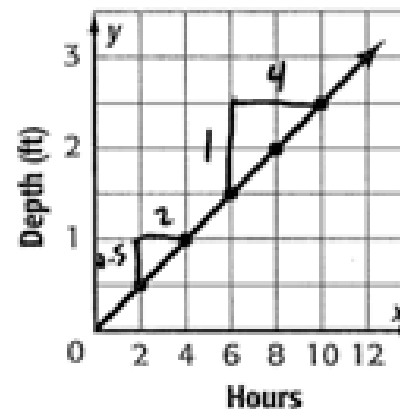
No, the snow would eventually stop

- d. Is the relationship between the depth of the snow and the number of hours directly proportional? Explain.

$$\frac{0.5}{2} = \frac{0.25}{1} \quad \frac{1}{4} = \frac{0.25}{1} \quad \frac{1.5}{6} = \frac{0.25}{1} \quad \frac{2}{8} = \frac{0.25}{1}$$

Yes

Snowfall

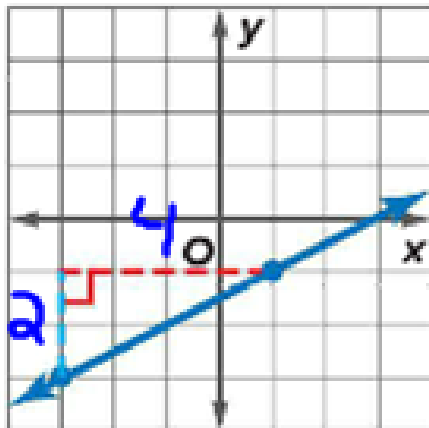


$$\frac{1}{2} / 2$$

Independent Practice #2-8, and 10-12. If you get done with that work on #15 - 22

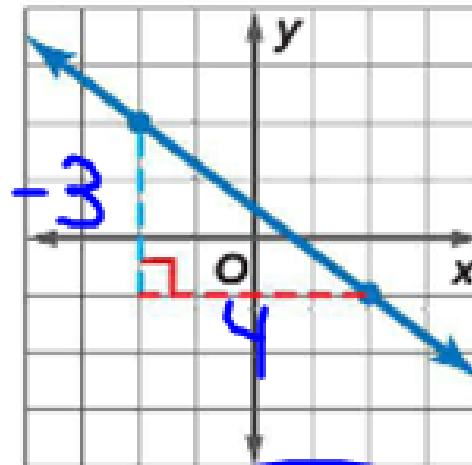
Find the slope of each line. (Example 2)

2.



$$m = \frac{2}{4} = \frac{1}{2}$$

3.



$$m = -\frac{3}{4}$$

The points given in the table lie on a line. Find the slope of each line.

(Example 3)

4.

x	0	2	4	6
y	9	4	-1	-6

 $\frac{\Delta y}{\Delta x} = -\frac{9}{2}$

5.

x	0	1	2	3
y	3	5	7	9

 $m = 2$

Find the slope of the line that passes through each pair of points. (Example 4)

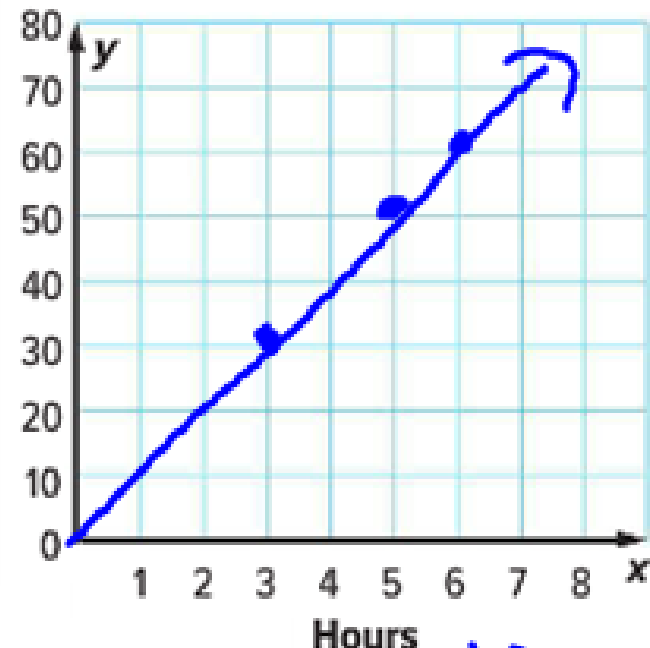
6. A(0, 1), B(2, 7) _____
 $m = \frac{7-1}{2-0} = \frac{6}{2} = 3$

7. C(2, 5), D(3, 1) _____
 $m = \frac{1-5}{3-2} = \frac{-4}{1} = -4$

8. E(1, 2), F(4, 7) _____
 $m = \frac{7-2}{4-1} = \frac{5}{3}$

10. **MP Multiple Representations** For working 3 hours, Sofia earns \$30.60. For working 5 hours, she earns \$51. For working 6 hours, she earns \$61.20.

(hours, \$)
 (3, 30.60)
 (5, 51)
 (6, 61.20)



a. **Graphs** Graph the information with hours on the horizontal axis and money earned on the vertical axis. Draw a line through the points.

b. **Numbers** What is the slope of the line?

10.2

c. **Words** What does the slope of the line represent?

How does the slope relate to the unit rate?

\$10.20 per hour



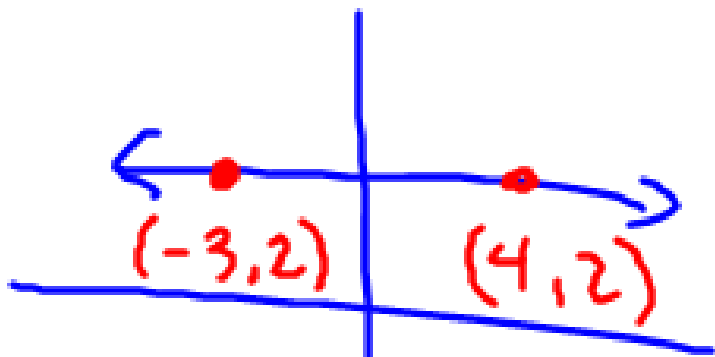
H.O.T. Problems Higher Order Thinking

11. **MP Find the Error** Jacob is finding the slope of the line that passes through X(0, 2) and Y(4, 3). Circle his mistake and correct it.

$$m = \frac{3-2}{0-4}$$

$$m = \frac{1}{-4} \text{ or } -\frac{1}{4}$$

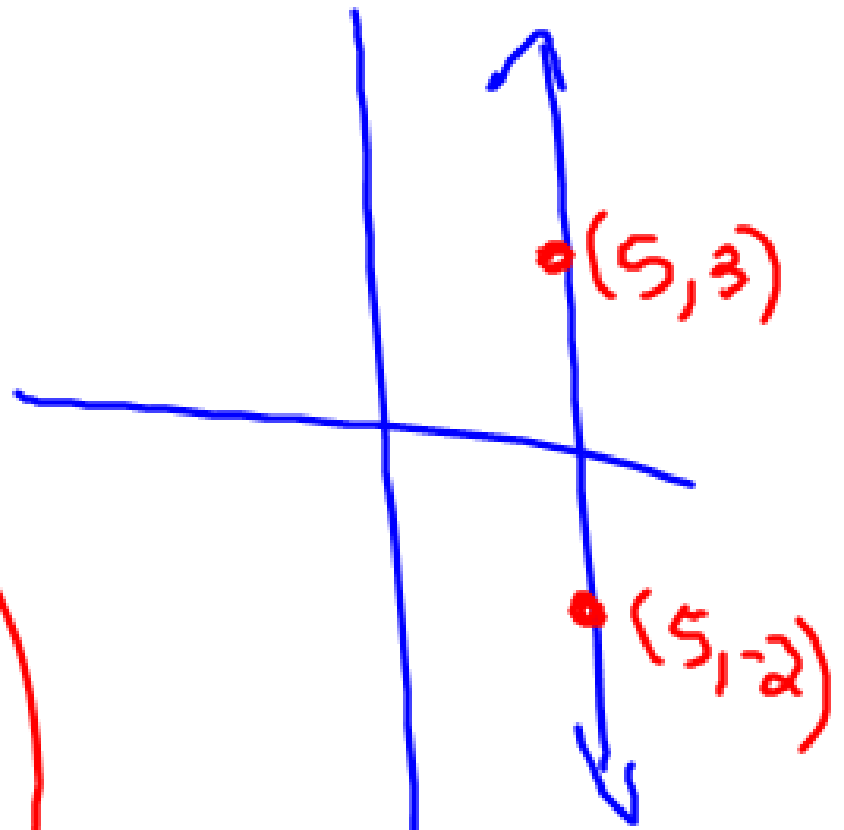
$$\frac{51 - 30.60}{5 - 3} = \frac{20.40}{2}$$



$$m = \frac{0}{7}$$

$$m = 0$$

Horizontal has slope of 0



$$m = \frac{5}{0}$$

$$\text{Undefined}$$

Vertical line has undefined slope