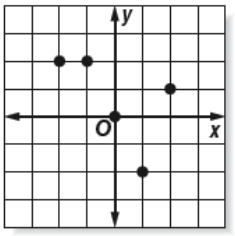
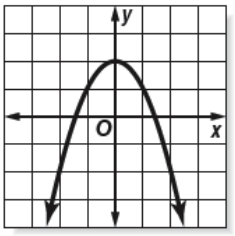
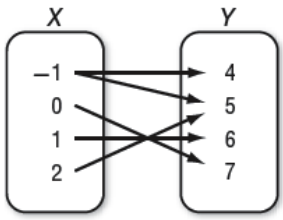
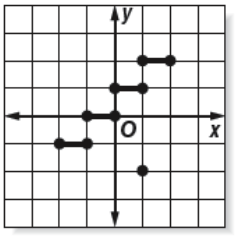
Warm-Up

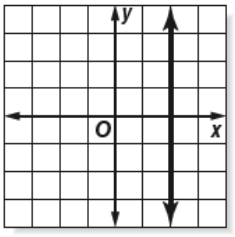
Determine whether each relation is a function.

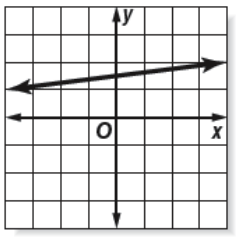
1. 

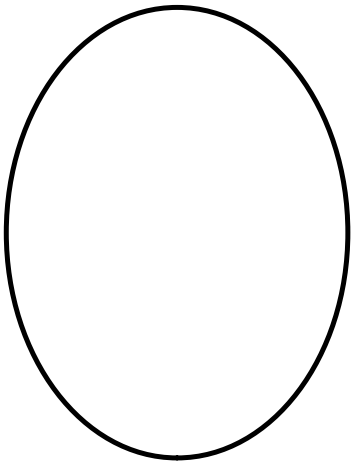
2. 

3. 

4. 

5. 

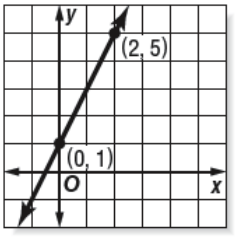
6. 

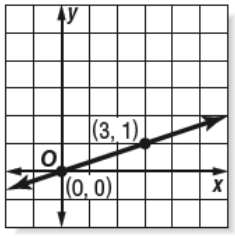


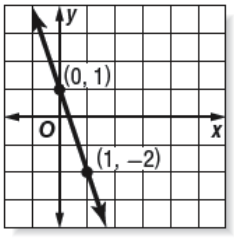
4 Ways to Find Slope

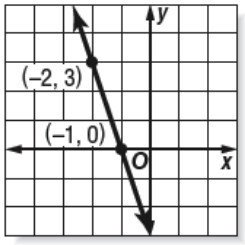
Review From Yesterday

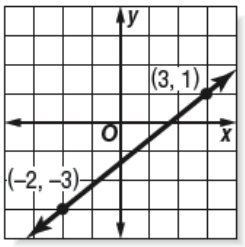
Find the slope of the line that passes through each pair of points.

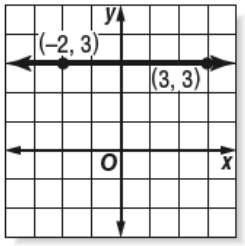
1. 

2. 

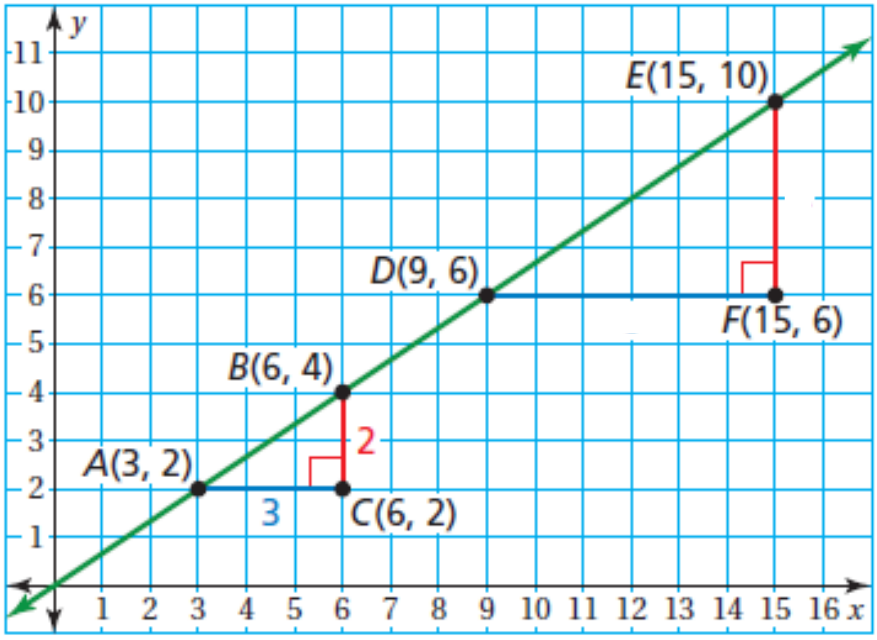
3. 

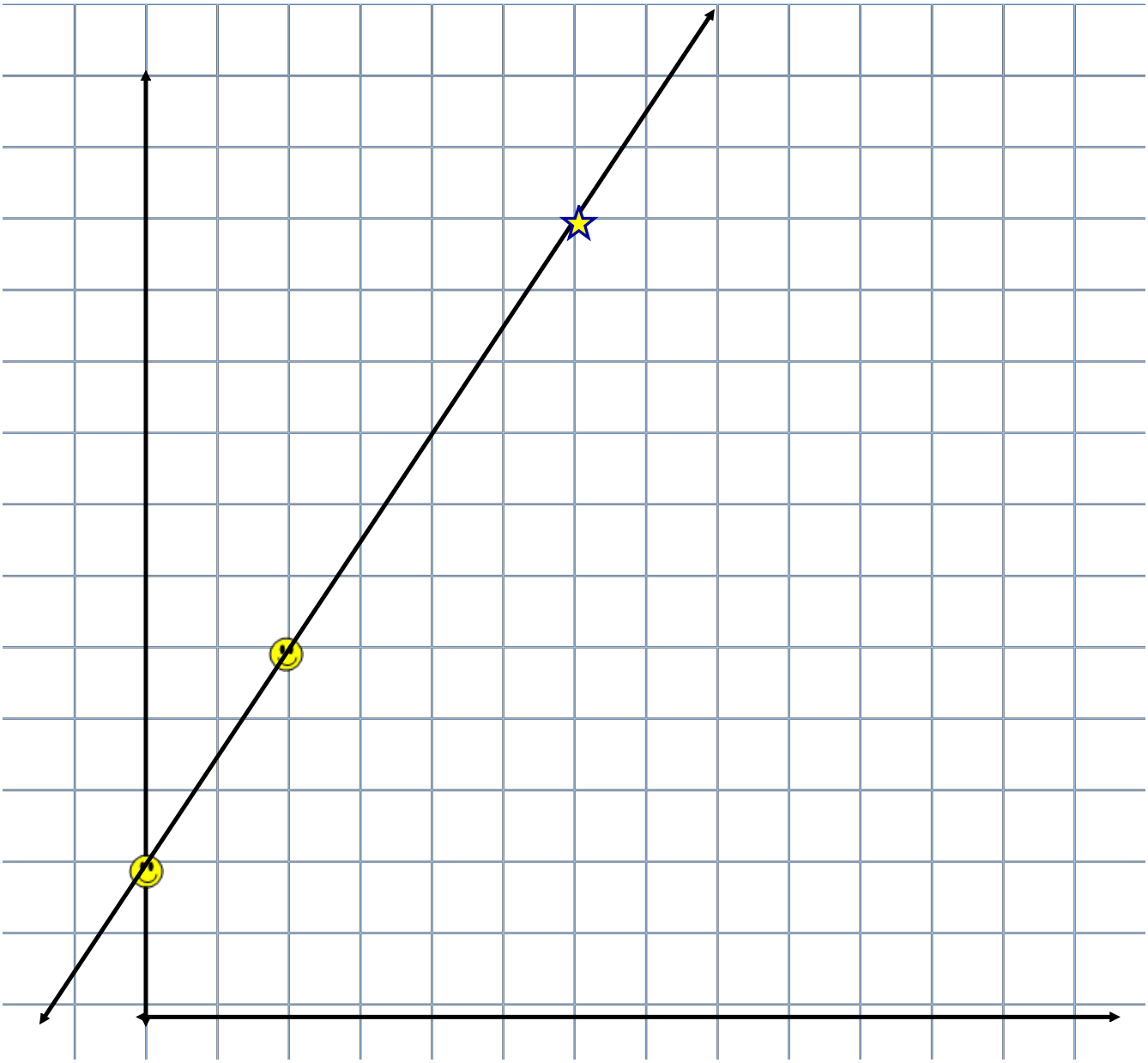
4. 

5. 

6. 

Slope and Triangles

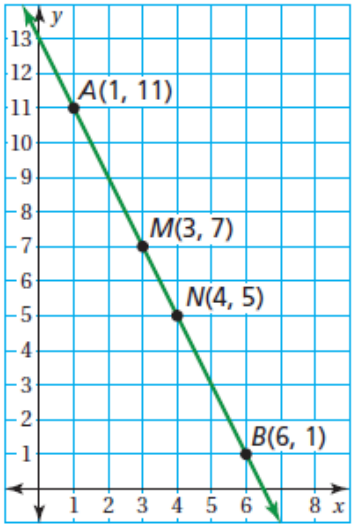




SLOPE Consider the line shown in the graph.

a. Draw two triangles that show the rise and the run of the line using points A and B and points M and N.

b. Use the triangles to find the slope of the line.



Find the slope and y-intercept of the graph of the equation.

$y = \frac{1}{4}x - 8$

m = b =

$y = -x + 3$

m = b =

Given Two Points:

Example:

(5, 6) & (3, 1)

(4, 3) (9, -2)

(-2, 4) (-2, 8)

(7,8) (-15,8)

Finding the Slope When You Have a Table

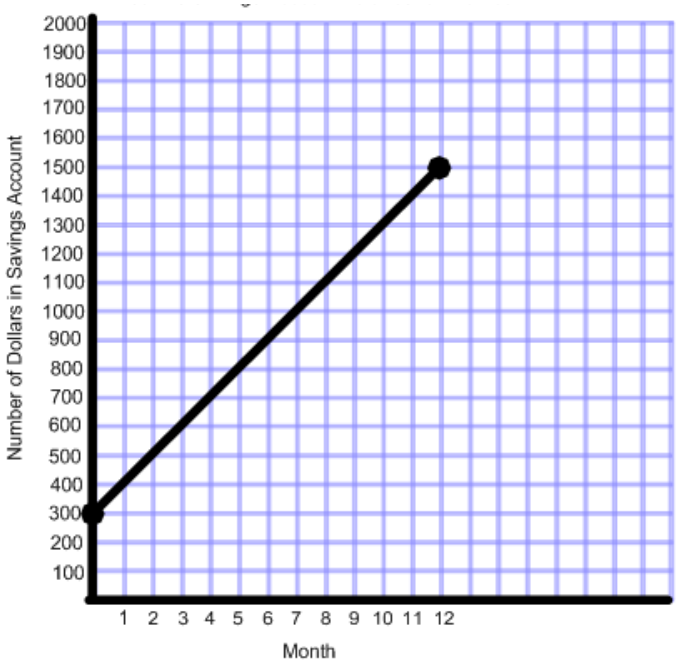
Choose any two points from the table - usually we just take the first two. Label them the same way we did here. Check out the figure below.

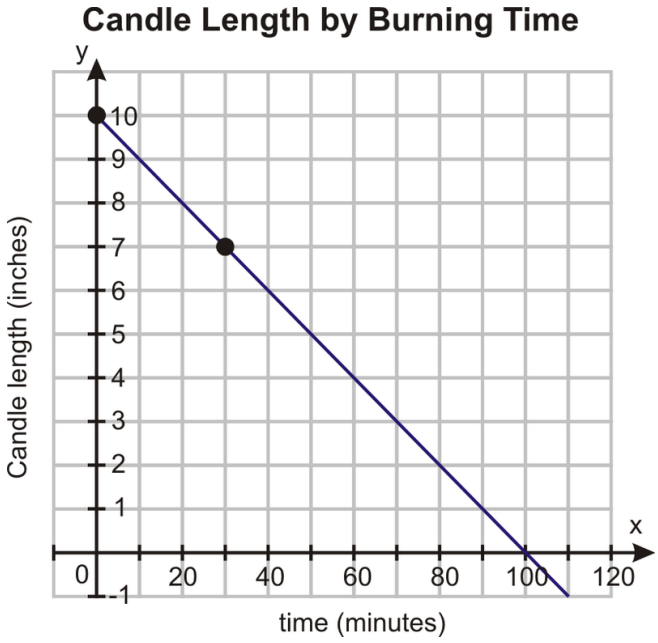
	x_1	x_2			
x	5	8	11	14	17
y	4	10	16	22	28
	y_1	y_2			

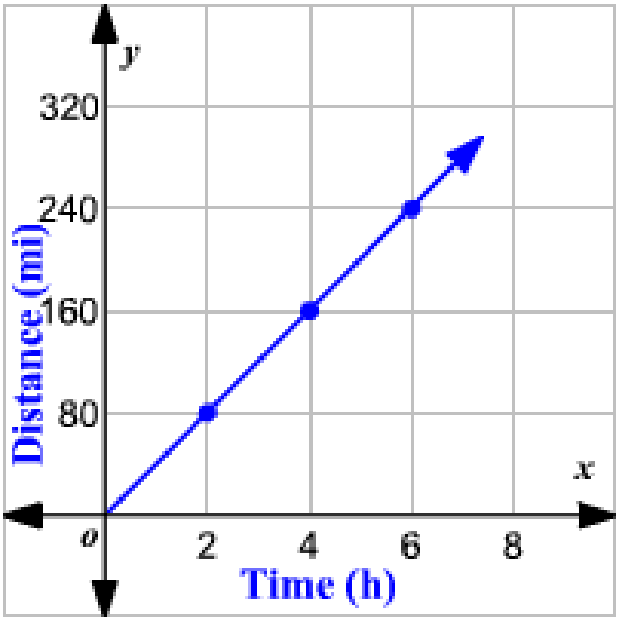
x	-2	0	2	4
y	3	2	1	0

x	y
2	8
4	12
6	16
10	24

x	3	6	9	12
y	4	2	0	-2

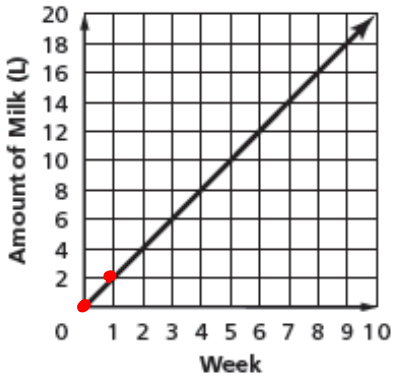

Number of Dollars in Savings Account
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
1 2 3 4 5 6 7 8 9 10 11 12
Month


Candle Length by Burning Time
y
10
9
8
7
6
5
4
3
2
1
-1
0
20
40
60
80
100
120
x
Candle length (inches)
time (minutes)


y
320
240
160
80
Distance (mi)
x
o
2
4
6
8
Time (h)

Find the rate of change for each linear function.

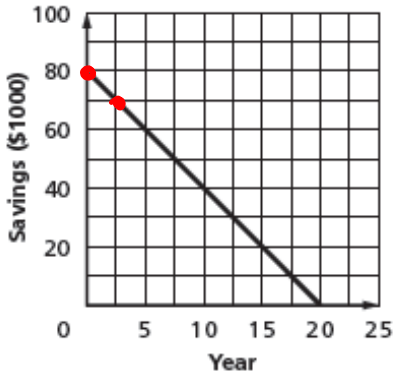
1.



2.

Year	Salary ($)
x	y
1	21,000
2	23,500
3	26,000
4	28,500

3.



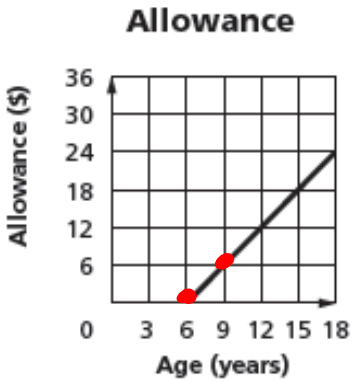
4.

Month	Number of Employees
x	y
0	0
2	22
4	44
6	66

5.

Gallons	Quarts
x	*y*
1	4
2	8
3	12
4	16

6.



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

7. $A(1, -5), B(6, -7)$

8. $C(7, -3), D(8, 1)$

9. $E(7, 2), F(12, 6)$

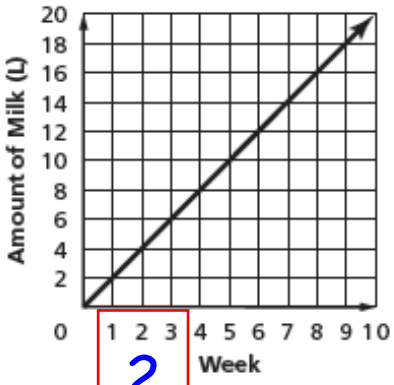
10. $G(8, -3), H(11, -2)$

11. $J(5, -9), K(0, -12)$

12. $L(-4, 6), M(5, 3)$

Find the rate of change for each linear function.

1.



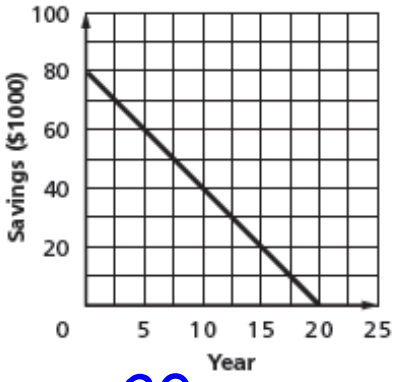
$\frac{2}{1}$ or 2

2.

Year	Salary ($)
x	y
1	21,000
2	23,500
3	26,000
4	28,500

2,500

3.



$\frac{-20}{5}$ or -4

4.

Month	Number of Employees
x	y
0	0
2	22
4	44
6	66

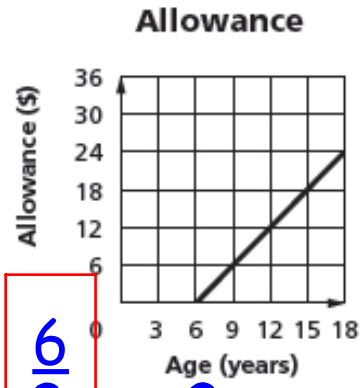
$\frac{22}{2}$ or 11

5.

Gallons	Quarts
x	*y*
1	4
2	8
3	12
4	16

4

6.



$\frac{6}{3}$ or 2

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

7. $A(1, -5), B(6, -7)$ $\frac{-2}{5}$

8. $C(7, -3), D(8, 1)$ $\frac{-4}{1}$

9. $E(7, 2), F(12, 6)$ $\frac{4}{5}$

10. $G(8, -3), H(11, -2)$ $\frac{1}{3}$

11. $J(5, -9), K(0, -12)$ $\frac{-3}{5}$

12. $L(-4, 6), M(5, 3)$ $\frac{-3}{9}$