

Daily Math

Week 17 (2013-2014)

Mon. December 9, 2013

Tues. December 10, 2013

Wed. December 11, 2013

Thurs. December 12, 2013

Fri. December 13, 2013

Monday, December 9, 2013

1st

Find the rate of change (slope) represented in this table:

x	0	1	2	3	4
y	0	5	10	15	20

Monday, December 9, 2013

1st

Find the rate of change (slope) represented in this table:

x	0	1	2	3	4
y	0	5	10	15	20

Answer: $Slope = \frac{\text{change in } y}{\text{change in } x}$

$$Slope = \frac{10-5}{2-1} = \frac{5}{1} = 5$$

Monday, December 9, 2013

2nd

Find the rate of change (slope) represented in this table:

x	y
1	-6
2	-9
3	-12
4	-15
5	-18

Monday, December 9, 2013

2nd

Find the rate of change (slope) represented in this table:

x	y
1	-6
2	-9
3	-12
4	-15
5	-18

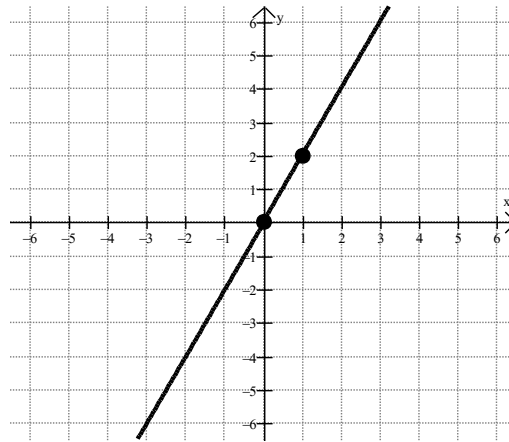
Answer: *Slope* = $\frac{\text{change in } y}{\text{change in } x}$

$$\textit{Slope} = \frac{(-9) - (-6)}{2 - 1} = \frac{-3}{1} = -3$$

Monday, December 9, 2013

3rd

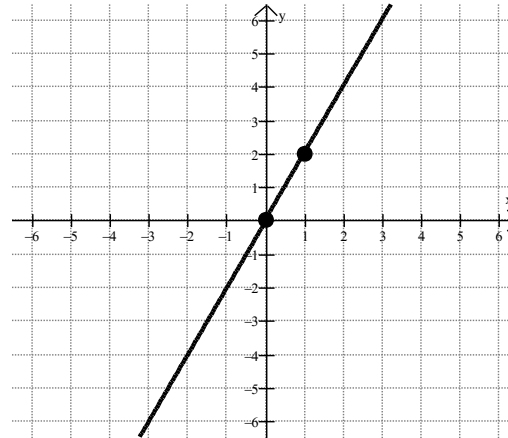
Find the slope of the line shown in the graph:



Monday, December 9, 2013

3rd

Find the slope of the line shown in the graph:



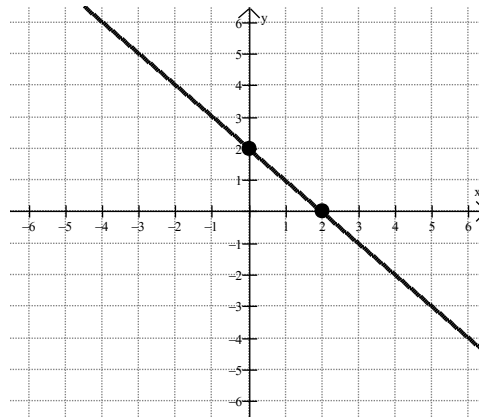
$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{2 - 0}{1 - 0} = \mathbf{2}$$

Monday, December 9, 2013

4th

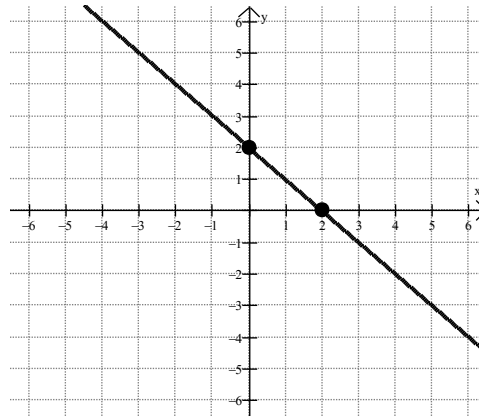
Find the slope of the line shown in the graph:



Monday, December 9, 2013

4th

Find the slope of the line shown in the graph:



$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

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

Monday, December 9, 2013

5th

Find the slope between these two points: $(2, 5)$ and $(3, 8)$

Monday, December 9, 2013

5th

Find the slope between these two points: (2, 5) and (3, 8)

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{8 - 5}{3 - 2} = \frac{3}{1} = \mathbf{3}$$

Monday, December 9, 2013

6th

Find the slope between these two points: $(0, 6)$ and $(4, 5)$

Monday, December 9, 2013

6th

Find the slope between these two points: (0, 6) and (4, 5)

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{5 - 6}{4 - 0} = \frac{-1}{4} = -\frac{1}{4}$$

Monday, December 9, 2013

7th

Find the slope between these two points: $(-4, 2)$ and $(-3, 4)$

Monday, December 9, 2013

7th

Find the slope between these two points: $(-4, 2)$ and $(-3, 4)$

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{4 - 2}{(-3) - (-4)} = \frac{2}{1} = 2$$

Tuesday, December 10, 2013 1st

Find the slope between these two points: $(5, 7)$ and $(9, 11)$.

Tuesday, December 10, 2013 1st

Find the slope between these two points:
(5, 7) and (9, 11).

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{11 - 7}{9 - 5} = \frac{4}{4} = \mathbf{1}$$

Tuesday, December 10, 2013 2nd

Find the slope between these two points: $(3, -7)$ and $(2, 0)$

Tuesday, December 10, 2013 2nd

Find the slope between these two points: (3, -7) and (2, 0)

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{0 - (-7)}{2 - 3} = \frac{7}{-1} = -7$$

Tuesday, December 10, 2013

3rd

Find the rate of change (slope)
represented in the table:

x	2	3	4	5	6
y	15	12	9	6	3

Tuesday, December 10, 2013

3rd

Find the rate of change (slope) represented in the table:

x	2	3	4	5	6
y	15	12	9	6	3

Answer: $Slope = \frac{\text{change in } y}{\text{change in } x}$

$$Slope = \frac{12 - 15}{3 - 2} = \frac{-3}{1} = -3$$

Tuesday, December 10, 2013 4th

Find the rate of change (slope)
represented in the table:

x	y
-2	4
-1	2
0	0
1	-2
2	-4

Tuesday, December 10, 2013

4th

Find the rate of change (slope) represented in the table:

x	y
-2	4
-1	2
0	0
1	-2
2	-4

Answer: *Slope* = $\frac{\text{change in } y}{\text{change in } x}$

$$\text{Slope} = \frac{(-2) - 0}{1 - 0} = \frac{-2}{1} = -2$$

Tuesday, December 10, 2013

5th

Find the rate of change (slope)
represented in the table:

x	0	1	2	3	4
y	50	48	46	44	42

Tuesday, December 10, 2013

5th

Find the rate of change (slope) represented in the table:

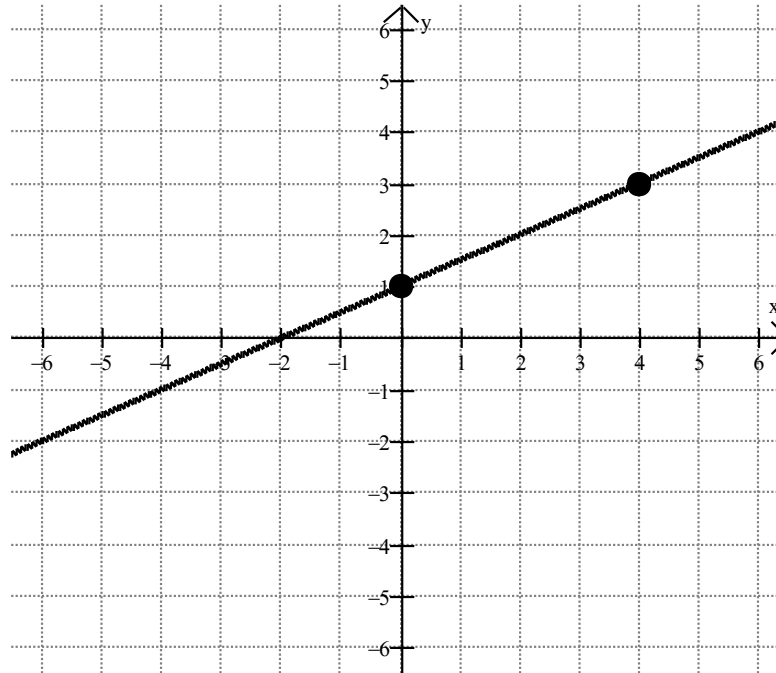
x	0	1	2	3	4
y	50	48	46	44	42

Answer: $Slope = \frac{\text{change in } y}{\text{change in } x}$

$$Slope = \frac{48 - 50}{1 - 0} = \frac{-2}{1} = -2$$

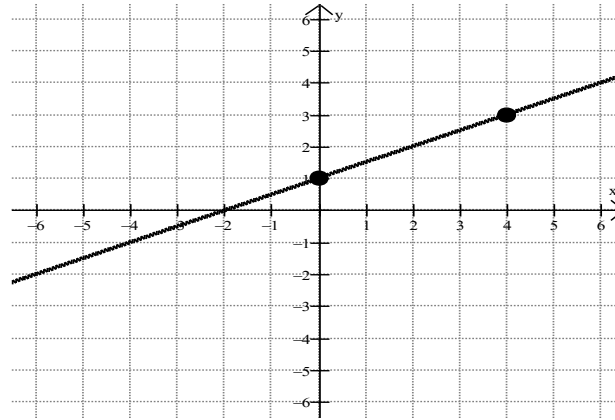
Tuesday, December 10, 2013 6th

Find the slope of the line shown in the graph:



Tuesday, December 10, 2013 6th

Find the slope of the line shown in the graph:

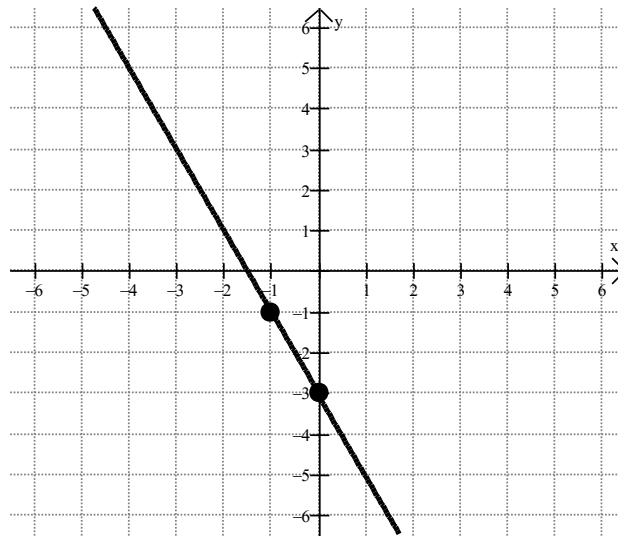


$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{3 - 1}{4 - 0} = \frac{2}{4} = \frac{1}{2}$$

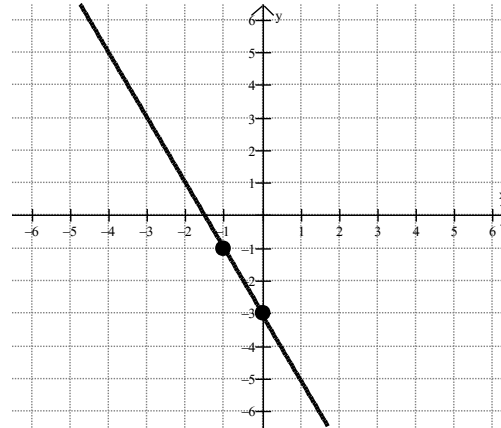
Tuesday, December 10, 2013 7th

Find the slope of the line shown in the graph:



Tuesday, December 10, 2013 7th

Find the slope of the line shown in the graph:

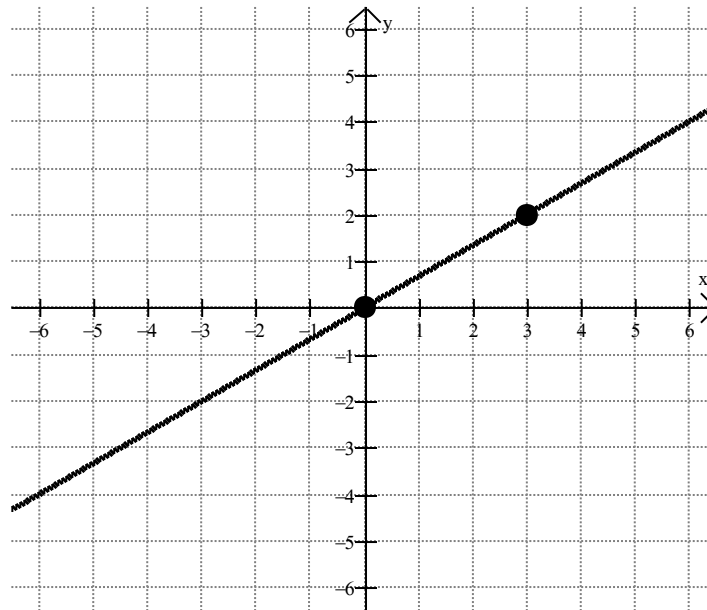


$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{(-3) - (-1)}{0 - (-1)} = \frac{-2}{1} = -2$$

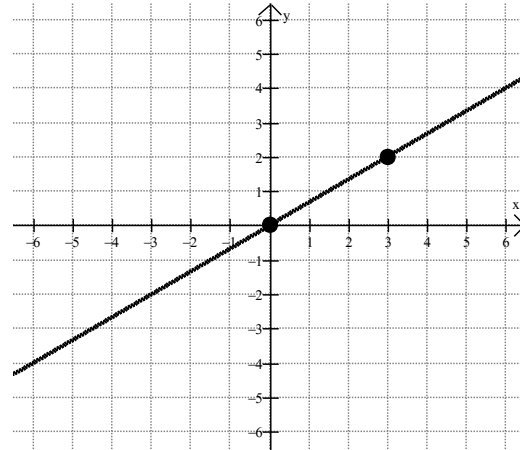
Wednesday, December 11, 2013 1st

Find the slope of the line shown in the graph:



Wednesday, December 11, 2013 1st

Find the slope of the line shown in the graph:

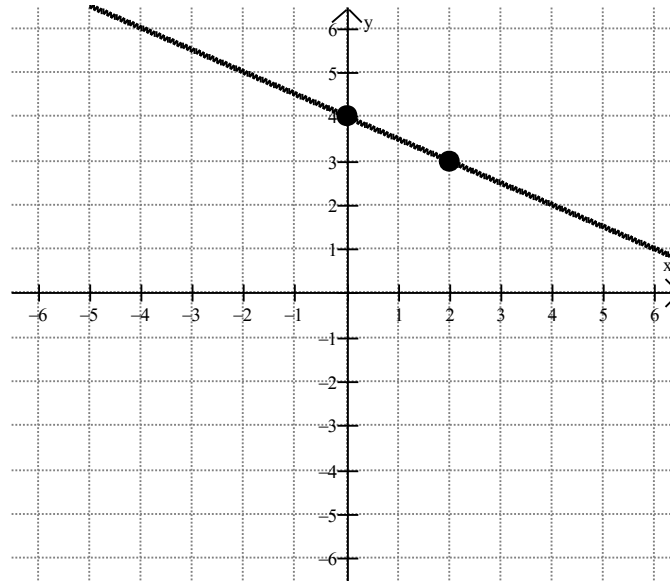


$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{2-0}{3-0} = \frac{2}{3} = \frac{2}{3}$$

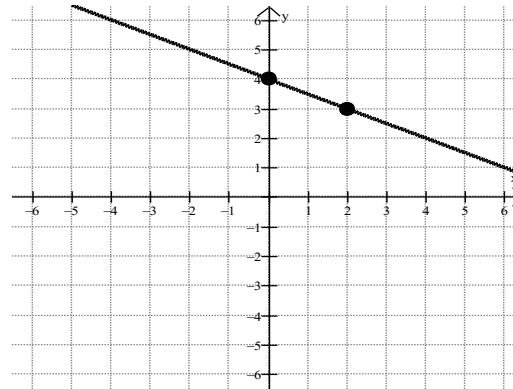
Wednesday, December 11, 2013 **2nd**

Find the slope of the line shown in the graph:



Wednesday, December 11, 2013 2nd

Find the slope of the line shown in the graph:



$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{3 - 4}{2 - 0} = \frac{-1}{2} = -\frac{1}{2}$$

Wednesday, December 11, 2013 **3rd**

Find the slope between these two points: $(10, 3)$ and $(15, 1)$

Wednesday, December 11, 2013 3rd

Find the slope between these two points: (10, 3) and (15, 1)

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{1 - 3}{15 - 10} = \frac{-2}{5} = -\frac{2}{5}$$

Wednesday, December 11, 2013 4th

Find the slope between these two points: $(-5, -2)$ and $(-3, 4)$

Wednesday, December 11, 2013 4th

Find the slope between these two points:
(-5, -2) and (-3, 4)

$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\textit{Slope} = \frac{4 - (-2)}{(-3) - (-5)} = \frac{6}{2} = 3$$

Wednesday, December 11, 2013

5th

Find the rate of change (slope) represented in the table:

x	y
0	1
1	5
2	9
3	13
4	17

Wednesday, December 11, 2013

5th

Find the rate of change (slope) represented in the table:

x	y
0	1
1	5
2	9
3	13
4	17

Answer: $Slope = \frac{\text{change in } y}{\text{change in } x}$

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

Wednesday, December 11, 2013

6th

Find the rate of change (slope)
represented in the table:

x	1	2	3	4	5
y	5	6	7	8	9

Wednesday, December 11, 2013

6th

Find the rate of change (slope) represented in the table:

x	1	2	3	4	5
y	5	6	7	8	9

$$\text{Answer: } \textit{Slope} = \frac{\textit{change in } y}{\textit{change in } x}$$

$$\textit{Slope} = \frac{6-5}{2-1} = \frac{1}{1} = \mathbf{1}$$

Wednesday, December 11, 2013

7th

Find the rate of change (slope)
represented in the table:

x	y
-5	35
-4	30
-3	25
-2	20
-1	15

Wednesday, December 11, 2013

7th

Find the rate of change (slope) represented in the table:

x	y
-5	35
-4	30
-3	25
-2	20
-1	15

Answer: $Slope = \frac{\text{change in } y}{\text{change in } x}$

$$Slope = \frac{30 - 35}{(-4) - (-5)} = \frac{-5}{1} = -5$$

Thursday, December 12, 2013 **1st**

Find the slope of the line whose equation is $y = -\frac{2}{3}x + 2$

Thursday, December 12, 2013 1st

Find the slope of the line whose equation is $y = -\frac{2}{3}x + 2$

Answer: In this form of a linear equation, the slope is the coefficient of the x-variable. In this case,

$$\text{slope} = -\frac{2}{3}$$

Thursday, December 12, 2013 **2nd**

Find the slope of the line whose equation is $y = -2x + 3$

Thursday, December 12, 2013 2nd

Find the slope of the line whose equation is $y = -2x + 3$

Answer: In this form of a linear equation, the slope is the coefficient of the x -variable. In this case,

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

Thursday, December 12, 2013 **3rd**

Find the slope of the line whose equation is $y = 5$

Thursday, December 12, 2013 3rd

Find the slope of the line whose equation is $y = 5$

Answer: In this form of a linear equation, the slope is the coefficient of the x-variable. In this case, the equation is equivalent to $y = 0x + 5$

slope = 0

Thursday, December 12, 2013 **4th**

Find the slope of the line whose equation is $3y = x$

Thursday, December 12, 2013 4th

Find the slope of the line whose equation is $3y = x$

Answer: Rearrange the equation so that it is in slope-intercept form:

$$\frac{1}{3}(3y) = \frac{1}{3}(x)$$

$$y = \frac{1}{3}x$$

$$\text{slope} = \frac{1}{3}$$

Thursday, December 12, 2013 5th

Find the slope of the line whose equation is $2y = x + 2$

Thursday, December 12, 2013 5th

Find the slope of the line whose equation is $2y = x + 2$

Answer: Rearrange the equation so that it is in slope-intercept form:

$$\frac{1}{2}(2y) = \frac{1}{2}(x + 2)$$

$$y = \frac{1}{2}x + 1$$

$$\text{slope} = \frac{1}{2}$$

Thursday, December 12, 2013 **6th**

Find the slope of the line whose equation is $y - 3 = 2x$

Thursday, December 12, 2013 6th

Find the slope of the line whose equation is $y - 3 = 2x$

Answer: Rearrange the equation so that it is in slope-intercept form:

$$y - 3 + 3 = 2x + 3$$

$$y = 2x + 3$$

$$\text{slope} = 2$$

Thursday, December 12, 2013 7th

Find the slope of the line whose equation is $x = -4$

Thursday, December 12, 2013 7th

Find the slope of the line whose equation is $x = -4$

Answer: There is no y-term, so this line is a vertical line. Vertical lines have zero “run” and since you cannot divide by zero, vertical lines have an undefined slope.

slope = undefined

Friday, December 13, 2013 **1st**

Find the rate of change (slope) in the following situation: “You and your friends go to the state fair. It costs \$5 to get into the fair and \$3 each time you go on a ride.”

Friday, December 13, 2013

1st

Find the rate of change (slope) in the following situation: “You and your friends go to the state fair. It costs \$5 to get into the fair and \$3 each time you go on a ride.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of rides. The amount associated with each ride is \$3.

Slope = 3

Friday, December 13, 2013 **2nd**

Find the rate of change (slope) in the following situation: “At a roller rink, it costs \$2 per hour plus \$7 to get in.”

Friday, December 13, 2013

2nd

Find the rate of change (slope) in the following situation: “At a roller rink, it costs \$2 per hour plus \$7 to get in.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of hours. The amount associated with each hour is \$2.

$$\text{Slope} = 2$$

Friday, December 13, 2013 **3rd**

Find the rate of change (slope) in the following situation: “A raft rental company charges \$15 initial fee plus \$3 for each hour that you are rafting.”

Friday, December 13, 2013

3rd

Find the rate of change (slope) in the following situation: “A raft rental company charges \$15 initial fee plus \$3 for each hour that you are rafting.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of hours. The amount associated with each hour is \$3.

Slope = 3

Friday, December 13, 2013 **4th**

Find the rate of change (slope) in the following situation: “A swimming pool is being filled with water at a rate of 8 gallons per minute.”

Friday, December 13, 2013

4th

Find the rate of change (slope) in the following situation: “A swimming pool is being filled with water at a rate of 8 gallons per minute.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of minutes. The amount associated with each minute is 8 gallons.

Slope = 8

Friday, December 13, 2013

5th

Find the rate of change (slope) in the following situation: “There are 300 fish in a pond. A crocodile is loose in the pond and is eating the fish. Each day the crocodile eats 15 fish.”

Friday, December 13, 2013

5th

Find the rate of change (slope) in the following situation: “There are 300 fish in a pond. A crocodile is loose in the pond and is eating the fish. Each day the crocodile eats 15 fish.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of days. The amount associated with each day is 15 *fewer* fish.

Slope = -15

Friday, December 13, 2013

6th

Find the rate of change (slope) in the following situation: “You bought a car for \$20,000. The car depreciates in value by \$1500 each year.”

Friday, December 13, 2013

6th

Find the rate of change (slope) in the following situation: “You bought a car for \$20,000. The car depreciates in value by \$1500 each year.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of years. The amount associated with each year is \$1500 *decrease*.

$$\text{Slope} = -1500$$

Friday, December 13, 2013

7th

Find the rate of change (slope) in the following situation: “After saving money from a job all summer, Allen has saved \$600. Now that school is back in, he uses this money to buy \$20 worth of gas each week.”

Friday, December 13, 2013

7th

Find the rate of change (slope) in the following situation:
“After saving money from a job all summer, Allen has saved \$600. Now that school is back in, he uses this money to buy \$20 worth of gas each week.”

Answer: The rate of change (slope) is the amount that changes with increasing numbers of the variable. The variable here is the number of weeks. The amount associated with each week is *spending* \$20.

Slope = -20