

# Daily Math

## Week 36 (2013-2014)

Mon. May 12, 2014

Tues. May 13, 2014

Wed. May 14, 2014

Thurs. May 15, 2014

Fri. May 16, 2014

Monday, May 12, 2014

1<sup>st</sup>

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

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

# Monday, May 12, 2014

1<sup>st</sup>

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, May 12, 2014

2<sup>nd</sup>

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

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

Monday, May 12, 2014

2<sup>nd</sup>

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

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

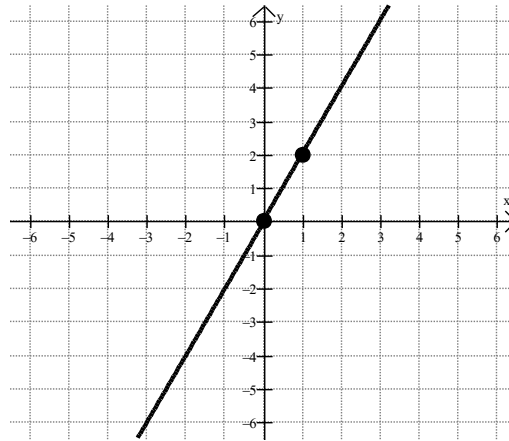
Answer: *Slope* =  $\frac{\text{change in } y}{\text{change in } x}$

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

Monday, May 12, 2014

3<sup>rd</sup>

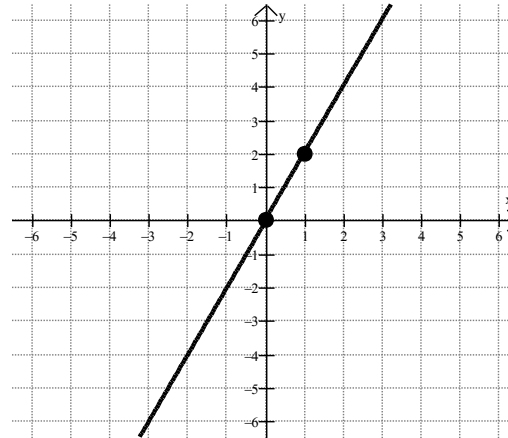
Find the slope of the line shown in the graph:



Monday, May 12, 2014

3<sup>rd</sup>

Find the slope of the line shown in the graph:



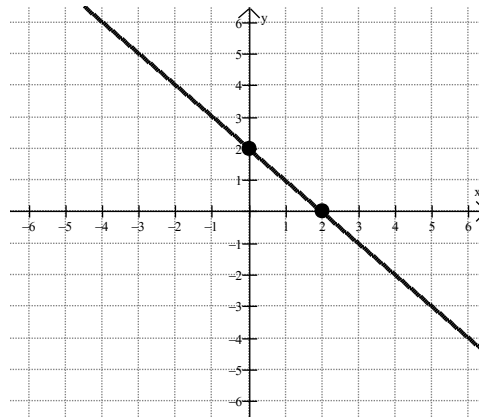
$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

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

Monday, May 12, 2014

4<sup>th</sup>

Find the slope of the line shown in the graph:

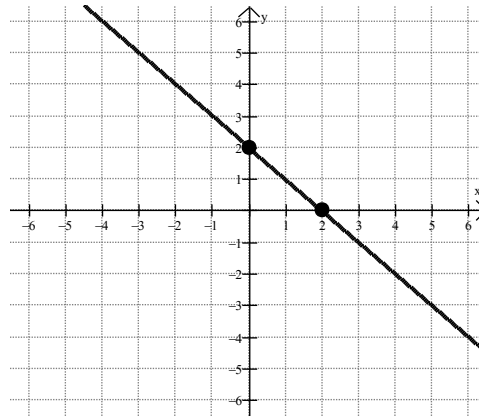




Monday, May 12, 2014

4<sup>th</sup>

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, May 12, 2014

5<sup>th</sup>

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

Monday, May 12, 2014

5<sup>th</sup>

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, May 12, 2014

6<sup>th</sup>

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

Monday, May 12, 2014

6<sup>th</sup>

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, May 12, 2014

7<sup>th</sup>

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

Monday, May 12, 2014

7<sup>th</sup>

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

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

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

Tuesday, May 13, 2014

1<sup>st</sup>

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



Tuesday, May 13, 2014

2<sup>nd</sup>

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, May 13, 2014

3<sup>rd</sup>

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

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

Tuesday, May 13, 2014

3<sup>rd</sup>

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, May 13, 2014

4<sup>th</sup>

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

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

Tuesday, May 13, 2014

4<sup>th</sup>

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, May 13, 2014

5<sup>th</sup>

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

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

Tuesday, May 13, 2014

5<sup>th</sup>

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

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

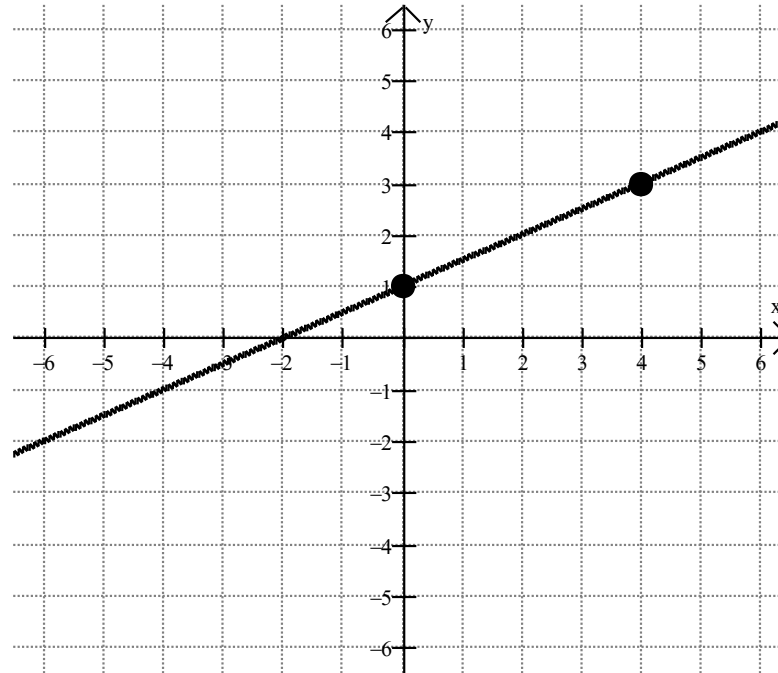
Answer:  $Slope = \frac{\text{change in } y}{\text{change in } x}$

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

Tuesday, May 13, 2014

6<sup>th</sup>

Find the slope of the line shown in the graph:

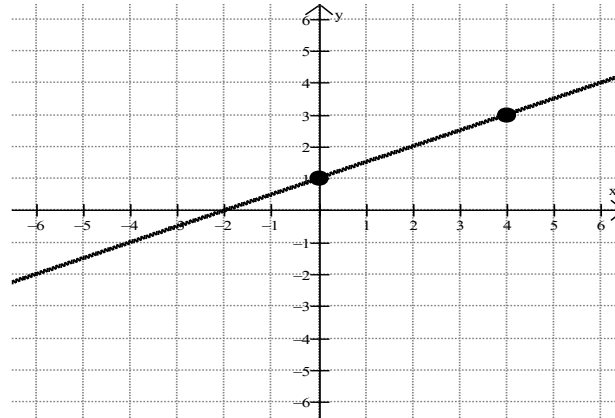




Tuesday, May 13, 2014

6<sup>th</sup>

Find the slope of the line shown in the graph:



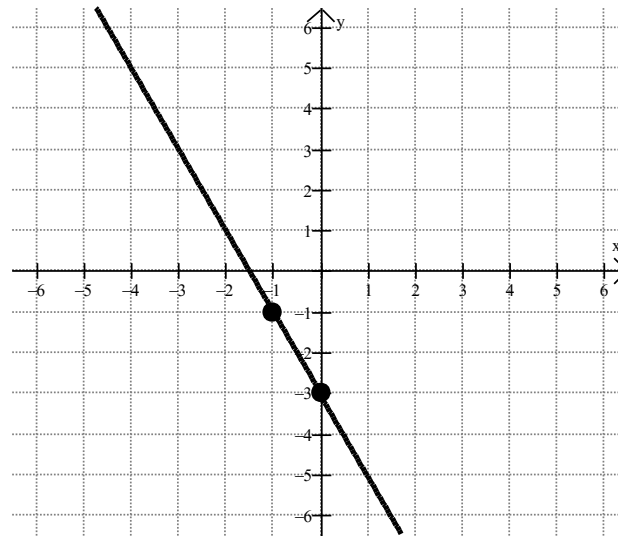
$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

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

Tuesday, May 13, 2014

7<sup>th</sup>

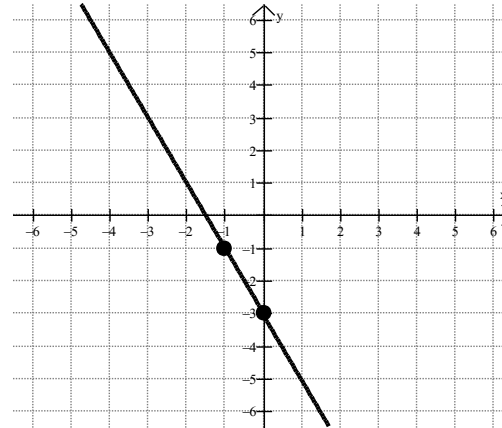
Find the slope of the line shown in the graph:



Tuesday, May 13, 2014

7<sup>th</sup>

Find the slope of the line shown in the graph:



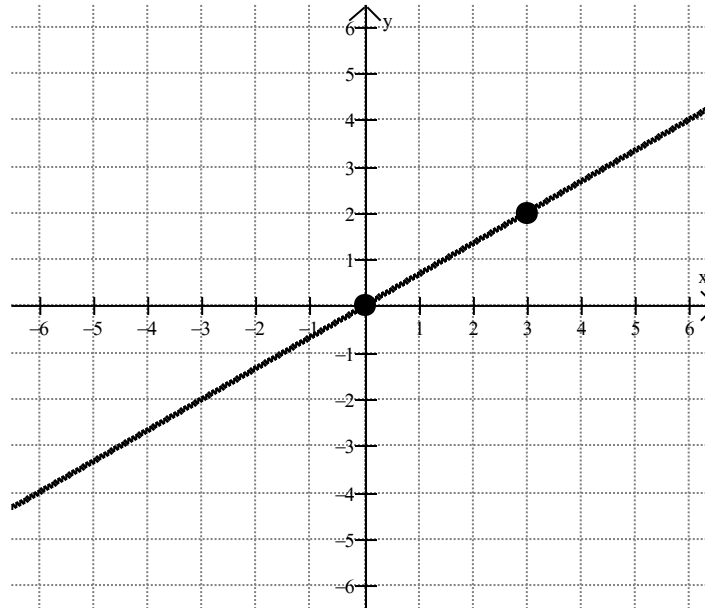
$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

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

Wednesday, May 14, 2014

1<sup>st</sup>

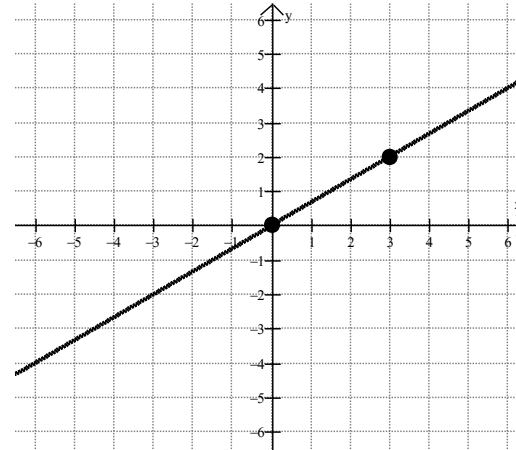
Find the slope of the line shown in the graph:



Wednesday, May 14, 2014

1<sup>st</sup>

Find the slope of the line shown in the graph:



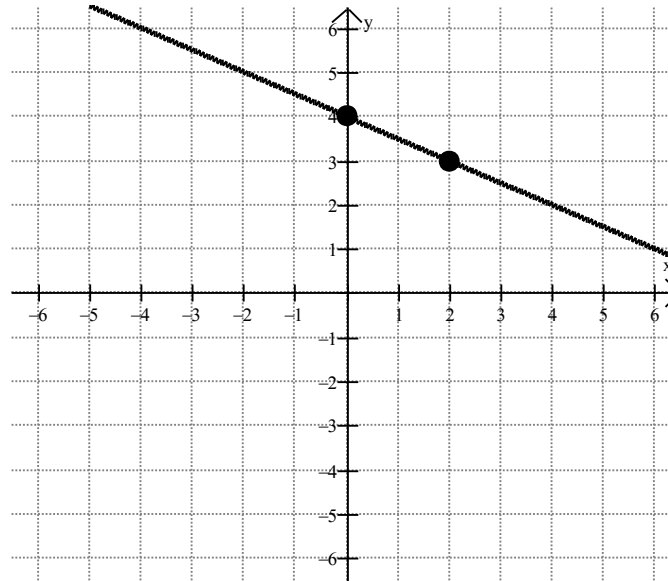
$$\text{Answer: } \textit{Slope} = \frac{\text{rise (change in } y\text{)}}{\text{run (change in } x\text{)}} = \frac{y_2 - y_1}{x_2 - x_1}$$

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

Wednesday, May 14, 2014

2nd

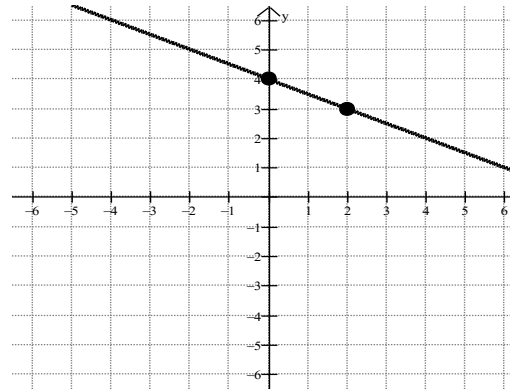
Find the slope of the line shown in the graph:



Wednesday, May 14, 2014

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, May 14, 2014

3rd

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



Wednesday, May 14, 2014

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, May 14, 2014

4th

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

Wednesday, May 14, 2014

4th

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

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

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

Wednesday, May 14, 2014

5<sup>th</sup>

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

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

Wednesday, May 14, 2014

5<sup>th</sup>

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, May 14, 2014

6<sup>th</sup>

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

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

Wednesday, May 14, 2014

6<sup>th</sup>

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, May 14, 2014

7<sup>th</sup>

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

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



Wednesday, May 14, 2014

7<sup>th</sup>

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, May 15, 2014

1st

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

Thursday, May 15, 2014

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, May 15, 2014

2nd

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

Thursday, May 15, 2014

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, May 15, 2014

3rd

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

Thursday, May 15, 2014

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, May 15, 2014

4th

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



Thursday, May 15, 2014

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, May 15, 2014

5th

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

Thursday, May 15, 2014

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, May 15, 2014

6th

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

Thursday, May 15, 2014

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:

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

$$y = 2x + 3$$

$$\mathbf{slope = 2}$$

Thursday, May 15, 2014

7th

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

Thursday, May 15, 2014

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, May 16, 2014

**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, May 16, 2014

# 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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

# 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, May 16, 2014

**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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

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, May 16, 2014

# 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.

$$\text{Slope} = -20$$