

# Daily Math

## Week 12 (2013-2014)

Mon. November 4, 2013

Tues. November 5, 2013

Wed. November 6, 2013

Thurs. November 7, 2013

Fri. November 8, 2013

Monday, November 4, 2013

1<sup>st</sup>

Solve for  $x$ :

$$\frac{3}{8} = \frac{x}{32}$$

Monday, November 4, 2013

1<sup>st</sup>

Solve for  $x$ :

$$\frac{3}{8} = \frac{x}{32}$$

Answer:

$$\frac{3}{8} = \frac{x}{32}$$

$$3(32) = 8x$$

$$96 = 8x$$

$$96 \div 8 = 8x \div 8$$

$$12 = x$$

Monday, November 4, 2013

2<sup>nd</sup>

Solve for  $x$ :

$$\frac{4x}{3} = \frac{8}{1}$$

Monday, November 4, 2013

2<sup>nd</sup>

Solve for  $x$ :

$$\frac{4x}{3} = \frac{8}{1}$$

Answer:

$$\frac{4x}{3} = \frac{8}{1}$$

$$4x = 24$$

$$4x \div 4 = 24 \div 4$$

$$x = 6$$

Monday, November 4, 2013

3<sup>rd</sup>

Solve for  $x$ :

$$\frac{4+x}{3} = 10$$

Monday, November 4, 2013

3<sup>rd</sup>

Solve for  $x$ :

$$\frac{4+x}{3} = 10$$

Answer:

$$\frac{4+x}{3} = 10$$

$$3 \cdot \left( \frac{4+x}{3} \right) = 3 \cdot (10)$$

$$4 + x = 30$$

$$4 - 4 + x = 30 - 4$$

$$x = 26$$

Monday, November 4, 2013

4<sup>th</sup>

Solve for  $x$ :

$$\frac{2x+2}{8} = \frac{8}{16}$$



Monday, November 4, 2013

4<sup>th</sup>

Solve for  $x$ :

$$\frac{2x+2}{8} = \frac{8}{16}$$

Answer:

$$\frac{2x+2}{8} = \frac{8}{16}$$

$$16(2x + 2) = 64$$

$$32x + 32 = 64$$

$$32x + 32 - 32 = 64 - 32$$

$$32x = 32$$

$$32x \div 32 = 32 \div 32$$

$$x = 1$$

Monday, November 4, 2013

5<sup>th</sup>

Solve for  $x$ :

$$\frac{x + 2}{7} = \frac{15}{5}$$

Monday, November 4, 2013

5<sup>th</sup>

Solve for x:

$$\frac{x + 2}{7} = \frac{15}{5}$$

Answer:  $\frac{x+2}{7} = \frac{15}{5}$

$$5(x + 2) = 105$$

$$5x + 10 - 10 = 105 - 10$$

$$5x = 95$$

$$5x \div 5 = 95 \div 5$$

$$x = 19$$

Monday, November 4, 2013

6<sup>th</sup>

Solve for  $x$ :

$$\frac{9}{4} = \frac{x+1}{8}$$

# Monday, November 4, 2013

# 6<sup>th</sup>

Solve for  $x$ :

$$\frac{9}{4} = \frac{x+1}{8}$$

Answer:

$$\frac{9}{4} = \frac{x+1}{8}$$

$$72 = 4(x + 1)$$

$$72 = 4x + 4$$

$$72 - 4 = 4x + 4 - 4$$

$$68 = 4x$$

$$68 \div 4 = 4x \div 4$$

$$17 = x$$

Monday, November 4, 2013

7<sup>th</sup>

Solve for  $x$ :

$$\frac{x+2}{4} = \frac{9}{2}$$

Monday, November 4, 2013

7<sup>th</sup>

Solve for  $x$ :

$$\frac{x+2}{4} = \frac{9}{2}$$

Answer:

$$\frac{x+2}{4} = \frac{9}{2}$$

$$2(x + 2) = 36$$

$$2x + 4 = 36$$

$$2x + 4 - 4 = 36 - 4$$

$$2x = 32$$

$$**x = 16**$$

Tuesday, November 5, 2013 1<sup>st</sup>

The record high temperature in Florida is  $109^{\circ}\text{F}$ . The record low is  $-2^{\circ}\text{F}$ . What is the *difference* between the records?



Tuesday, November 5, 2013 1<sup>st</sup>

The record high temperature in Florida is  $109^{\circ}\text{F}$ . The record low is  $-2^{\circ}\text{F}$ . What is the *difference* between the records?

$$\begin{aligned} \text{Answer: } & 109 - (-2) \\ & 109 + (+2) \\ & \mathbf{111^{\circ}\text{F}} \end{aligned}$$

Tuesday, November 5, 2013 2<sup>nd</sup>

A snail at the bottom of a 10 ft hole crawls up 3 feet each day, but slips back 2 feet each night. How many days will it take for the snail to escape?

# Tuesday, November 5, 2013

2<sup>nd</sup>

A snail at the bottom of a 10 ft hole crawls up 3 feet each day, but slips back 2 feet each night. How many days will it take for the snail to escape?

Answer: **8 days** (see chart below):

Day #	0	1	2	3	4	5	6	7	8
Feet at end of day	10	7	6	5	4	3	2	1	0
Feet after night	10	9	8	7	6	5	4	3	

Tuesday, November 5, 2013 3<sup>rd</sup>

Nate is training for a triathlon. He runs 3 miles each day. Since he began training, he has run 91 miles. How many weeks has he been training?

Tuesday, November 5, 2013 3<sup>rd</sup>

Nate is training for a triathlon. He runs 3 miles each day. Since he began training, he has run 91 miles. How many weeks has he been training?

$$\text{Answer: } 91 \text{ miles} \cdot \frac{1 \text{ day}}{3 \text{ miles}} \approx 30.3 \text{ days}$$

$$30.3 \text{ days} \cdot \frac{1 \text{ week}}{7 \text{ days}} \approx \mathbf{4.3 \text{ weeks}}$$

Tuesday, November 5, 2013 4<sup>th</sup>

A skydiver jumps out of a plane at a height of 5140 feet. He falls 2900 feet before opening his parachute. What height is he at when he opens his chute?

Tuesday, November 5, 2013 4<sup>th</sup>

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Answer:  $5140 \text{ feet} - 2900 \text{ feet}$

**2240 feet**

Tuesday, November 5, 2013 5<sup>th</sup>

Lisa gave away 60 balloons everyday during the month of July (31 days). She still had 132 balloons left. How many did she start off with?



Tuesday, November 5, 2013 5<sup>th</sup>

Lisa gave away 60 balloons everyday during the month of July (31 days). She still had 132 balloons left. How many did she start off with?

Answer: Let  $x$  = starting number of balloons

$$x \text{ balloons} - 31 \text{ days} \left( 60 \frac{\text{balloons}}{\text{day}} \right) = 132 \text{ balloons}$$

$$x - 1860 = 132$$

$$x - 1860 + 1860 = 132 + 1860$$

$$x = 1992 \text{ balloons}$$

Tuesday, November 5, 2013 6<sup>th</sup>

The temperature in Salt Lake City rose  $2^{\circ}\text{F}$  every minute for 7 minutes. If the temperature began at  $-4^{\circ}\text{F}$ , what was the temperature 7 minutes later?

Tuesday, November 5, 2013 6<sup>th</sup>

The temperature in Salt Lake City rose 2°F every minute for 7 minutes. If the temperature began at -4°F, what was the temperature 7 minutes later?

Answer:

Beginning + 7 (2°F/minute) = Ending

$$-4 + 7(2) = -4 + 14$$

**10°F**

Tuesday, November 5, 2013 7<sup>th</sup>

A scuba diver drops down to a depth of 75 meters below sea level. He then rose 30 meters to an underwater living quarter. How far beneath the surface are the living quarters?

Tuesday, November 5, 2013 7<sup>th</sup>

A scuba diver drops down to a depth of 75 meters below sea level. He then rose 30 meters to an underwater living quarter. How far beneath the surface are the living quarters?

Answer: Start depth + change = Ending depth  
 $-75 \text{ meters} + 30 \text{ meters} = -45 \text{ meters}$

**45 meters below the surface**

Wednesday, November 6, 2013 1<sup>st</sup>

Felicia wants to buy 4 new tires. She can spend no more than \$74 per tire. A paper advertises 4 tires on sale for \$320. They usually cost \$359. Can she buy them?

Wednesday, November 6, 2013 1<sup>st</sup>

Felicia wants to buy 4 new tires. She can spend no more than \$74 per tire. A paper advertises 4 tires on sale for \$320. They usually cost \$359. Can she buy them?

Answer: Budget: 4 tires(\$74) = \$296

Sale Price: \$320

**No, Felicia can't afford them.**

Wednesday, November 6, 2013 **2nd**

Cesar is playing Jeopardy. After answering a 200 point question correctly, his score is -500. What was his score before he answered the question?



# Wednesday, November 6, 2013 2nd

Cesar is playing Jeopardy. After answering a 200 point question correctly, his score is -500. What was his score before he answered the question?

Answer:

Previous score + 200 points = -500 points

$$p + 200 = -500$$

$$p + 200 - 200 = -500 - 200$$

$$p = -700 \quad \text{Previous score} = -700 \text{ points}$$

**Wednesday, November 6, 2013 3rd**

Melina baked cookies for school. She made 93 cookies total. She kept 24 for her family and took the rest to school. If there are 23 students in class how many did each get?

## Wednesday, November 6, 2013 3rd

Melina baked cookies for school. She made 93 cookies total. She kept 24 for her family and took the rest to school. If there are 23 students in class how many did each get?

Answer:

$93 - 24 = 69$  cookies taken to school

$69 \text{ cookies} \div 23 \text{ students} = \mathbf{3 \text{ cookies/student}}$

Wednesday, November 6, 2013 4th

Solve:

$$2x - 1 = 3 - 4(x + 4)$$

# Wednesday, November 6, 2013 4th

Solve:

$$2x - 1 = 3 - 4(x + 4)$$

Answer:  $2x - 1 = 3 - 4(x + 4)$

$$2x - 1 = 3 - 4x - 16$$

$$2x - 1 = -4x - 13$$

$$2x - 1 + 13 = -4x - 13 + 13$$

$$2x + 12 = -4x$$

$$2x - 2x + 12 = -4x - 2x$$

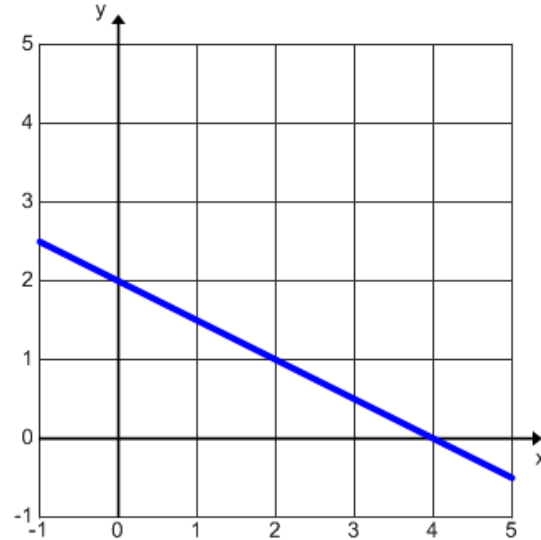
$$12 = -6x$$

$$12 \div (-6) = -6x \div (-6)$$

$$-2 = x$$

Wednesday, November 6, 2013 5<sup>th</sup>

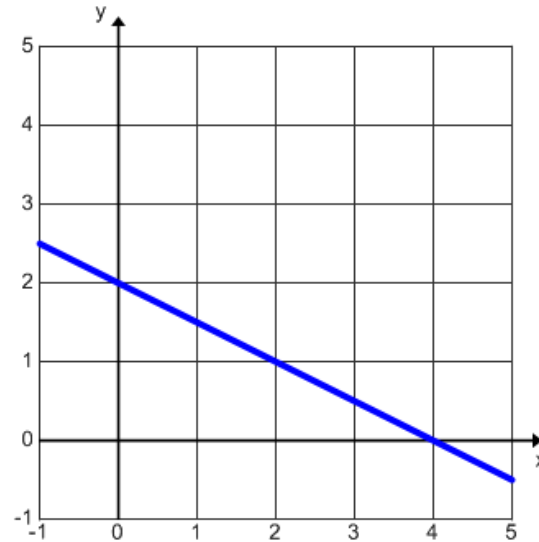
What is the  $y$ -intercept in this graph?



Wednesday, November 6, 2013 5<sup>th</sup>

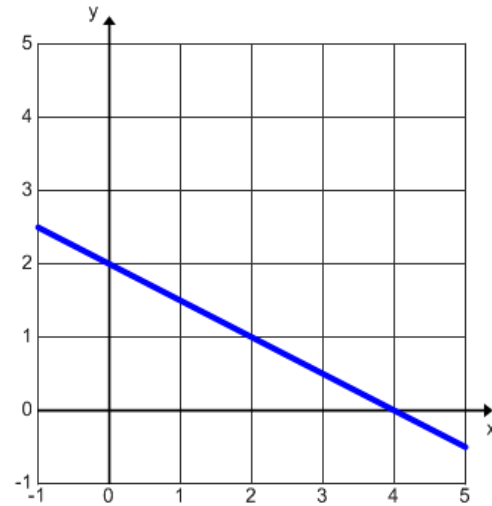
What is the y-intercept in this graph?

Answer: **(0, 2)**



Wednesday, November 6, 2013 6<sup>th</sup>

What is the slope of the line shown:





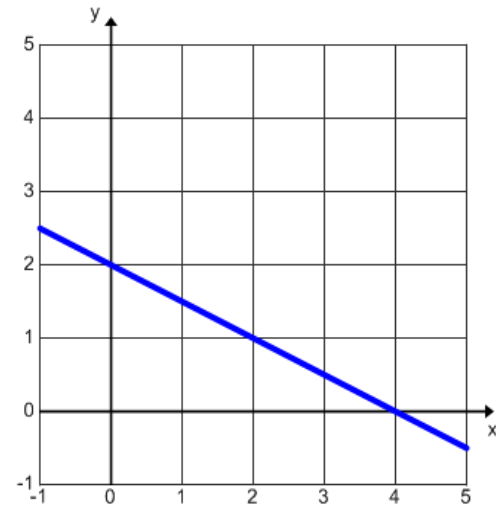
Wednesday, November 6, 2013 6<sup>th</sup>

What is the slope of the line shown:

Answer: Choose (0, 2) and (4, 0)

$$\frac{\text{rise}}{\text{run}} = \frac{-2}{+4}$$

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



Wednesday, November 6, 2013 7<sup>th</sup>

Find the slope according to this table:

x	0	2	4	6
y	10	7	4	1

Wednesday, November 6, 2013 7<sup>th</sup>

Find the slope according to this table:

x	0	2	4	6
y	10	7	4	1

Answer:

$$\begin{aligned}\text{Slope} &= \frac{\text{change in } y}{\text{change in } x} \\ &= \frac{7 - 10}{2 - 0} = \frac{-3}{+2} = -\frac{3}{2}\end{aligned}$$

# Thursday, November 7, 2013

# 1st

Find the slope:

x	1	3	5	7
y	10	20	30	40

Thursday, November 7, 2013 1st

Find the slope:

x	1	3	5	7
y	10	20	30	40

$$\begin{aligned} \text{Answer: Slope} &= \frac{\text{change in } y}{\text{change in } x} \\ &= \frac{20 - 10}{3 - 1} = \frac{+10}{+2} = \mathbf{5} \end{aligned}$$

Thursday, November 7, 2013 **2nd**

Find the slope:

x	2	4	6
y	6	12	18

Thursday, November 7, 2013

2nd

Find the slope:

x	2	4	6
y	6	12	18

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

$$= \frac{12-6}{4-2} = \frac{+6}{+2} = \mathbf{3}$$

Thursday, November 7, 2013 3rd

Describe a line with the following

slope:  $\frac{5}{0}$



Thursday, November 7, 2013 3rd

Describe a line with the following

slope:  $\frac{5}{0}$

Answer: **This is a vertical line. It has an undefined slope, because you cannot divide by zero.**

Thursday, November 7, 2013 4th

Find the slope between the two points:  
(1,5) and (2,8)

Thursday, November 7, 2013 4th

Find the slope between the two points:  
(1,5) and (2,8)

$$\begin{aligned}\text{Answer: Slope} &= \frac{\text{change in } y}{\text{change in } x} \\ &= \frac{8 - 5}{2 - 1} = \frac{+3}{+1} = \mathbf{3}\end{aligned}$$

Thursday, November 7, 2013 5th

What is the slope of the equation  $y = \frac{1}{3}x - 2$

Thursday, November 7, 2013 5th

What is the slope of the equation  $y = \frac{1}{3}x - 2$

Answer: The linear equation is in “slope-intercept” form ( $y = mx + b$ ), so the slope is  $m$ .

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

Thursday, November 7, 2013 **6th**

What is the slope of  $y = 2x - 5$ ?

Thursday, November 7, 2013 6th

What is the slope of  $y = 2x - 5$ ?

**Answer:** The linear equation is in “slope-intercept” form ( $y = mx + b$ ), so the slope is  $m$ .

**slope = 2**

Thursday, November 7, 2013 7th

What is the slope of the equation

$$y = 3x - 2?$$



Thursday, November 7, 2013 7th

What is the slope of the equation

$$y = 3x - 2?$$

Answer: The linear equation is in “slope-intercept” form ( $y = mx + b$ ), so the slope is  $m$ .

$$\text{slope} = 3$$

Friday, November 8, 2013

**1st**

What is the slope of the equation

$$2x - 3y = 7?$$

# Friday, November 8, 2013

# 1st

What is the slope of the equation  
 $2x - 3y = 7$ ?

Answer: First, solve for  $y$ :

$$2x - 2x - 3y = 7 - 2x$$

$$-3y = 7 - 2x$$

$$-\frac{1}{3}(-3y) = -\frac{1}{3}(7 - 2x)$$

$$y = -\frac{7}{3} + \frac{2}{3}x$$

Equation is in slope-intercept form.

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

Friday, November 8, 2013

**2nd**

What is the slope of  $x = -1$ ?

Friday, November 8, 2013

2nd

What is the slope of  $x = -1$ ?

Answer: This is a vertical line, where the “run” is zero. Since you cannot divide by zero, the **slope is undefined**.

Friday, November 8, 2013

**3rd**

What is the slope of  $y = 7$ ?

Friday, November 8, 2013

3rd

What is the slope of  $y = 7$ ?

Answer: This is a horizontal line, whose “rise” is zero. The **slope is zero.**

Friday, November 8, 2013

**4th**

What is the slope of  $y = \frac{1}{5}x - 5$ ?



Friday, November 8, 2013

4th

What is the slope of  $y = \frac{1}{5}x - 5$ ?

Answer: The linear equation is in “slope-intercept” form ( $y = mx + b$ ), so the slope is  $m$ .

$$\text{slope} = \frac{1}{5}$$

Friday, November 8, 2013

**5th**

What is the slope of the line between  $(-1,1)$  and  $(2,3)$ ?

Friday, November 8, 2013

5th

What is the slope of the line between (-1,1) and (2,3)?

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

$$= \frac{3-1}{2-(-1)} = \frac{+2}{+3} = \frac{2}{3}$$

Friday, November 8, 2013

6th

What is the slope of the line between  
(3,1) and (5,-1)?

Friday, November 8, 2013

6th

What is the slope of the line between (3,1) and (5,-1)?

$$\begin{aligned} \text{Answer: Slope} &= \frac{\text{change in } y}{\text{change in } x} \\ &= \frac{(-1) - 1}{5 - 3} = \frac{-2}{+2} = -1 \end{aligned}$$

Friday, November 8, 2013

**7th**

What is the slope of the line that goes through  $(2,-1)$  and  $(4,2)$ ?

Friday, November 8, 2013

7th

What is the slope of the line that goes through (2,-1) and (4,2)?

$$\begin{aligned} \text{Answer: Slope} &= \frac{\text{change in } y}{\text{change in } x} \\ &= \frac{2 - (-1)}{4 - 2} = \frac{+3}{+2} = \frac{\mathbf{3}}{\mathbf{2}} \end{aligned}$$