Daily Math Week 8 (2013-2014)

Mon. October 7, 2013
Tues. October 8, 2013
Wed. October 9, 2013
Thurs. October 10, 2013
Fri. October 11, 2013

Order from **greatest to least**: 0.56, 0.555, 0.6

Monday, October 7, 2013   1st

Order from **greatest to least**: 0.56, 0.555, 0.6

Answer: **0.6, 0.56, 0.555**

3

Evaluate and simplify:

$$\frac{2}{7} \cdot \left(-\frac{3}{4} \right)$$

Evaluate and simplify:

$$\frac{2}{7} \cdot \left(-\frac{3}{4}\right)$$

Answer:
$$\frac{2}{7} \cdot \left(-\frac{3}{4}\right)$$

$$\frac{2\cdot(-3)}{7\cdot 4} = \frac{-6}{28}$$

$$-\frac{6\div 2}{28\div 2} = -\frac{3}{14}$$

What is the sale price of a pair of jeans on sale for $\frac{1}{3}$ off? The regular cost of the jeans is $45.

What is the sale price of a pair of jeans on sale for $\frac{1}{3}$ off? The regular cost of the jeans is $45.

Answer: Sale price $= (1 - \frac{1}{3}) \cdot \$45$

Sale price $= \frac{2}{3} \cdot 45 = \frac{90}{3}$

Sale price = **$30**

Simplify:

$$(12345^2)^0$$

Monday, October 7, 2013

Simplify:

$$(12345^2)^0$$

Answer: **1**

Any quantity raised to the zero power equals 1.

Simplify:

$$\frac{4xy}{8x^2z}$$

Simplify:

$$\frac{4xy}{8x^2z}$$

Answer: $$\frac{4xy}{8x^2z} \div \frac{common\ factors}{common\ factors}$$

$$\frac{4xy}{8x^2z} \div \frac{4x}{4x} = \frac{\textcolor{red}{\boldsymbol{y}}}{\textcolor{red}{\boldsymbol{2xz}}}$$

11

Find the next two terms in the sequence:

$$-8, 4, -2, 1, \underline{\quad}, \underline{\quad}$$

Monday, October 7, 2013   **6th**

Find the next two terms in the sequence:

$$-8, 4, -2, 1, \_\_\_, \_\_\_$$

Answer: $-8, 4, -2, 1, -\dfrac{1}{2}, \dfrac{1}{4}$

(divide by -2 each step)

13

Solve for k:

$$-4 = k - 19$$

Solve for k:

$$-4 = k - 19$$

Answer:

$$-4 = k - 19$$

$$-4 + \mathbf{19} = k - 19 + \mathbf{19}$$

$$\mathbf{15 = k}$$

Simplify:

$$10 - 8a + 1 - 3a$$

Simplify:

$$10 - 8a + 1 - 3a$$

Answer: $10 - 8a + 1 - 3a$

$$-8a - 3a + 10 + 1$$

$$\mathbf{-11a + 11}$$

Simplify:

$$7(b + 1) - 6b$$

Simplify:

$$7(b + 1) - 6b$$

Answer: $7(b + 1) - 6b$

$$7b + 7 - 6b$$

$$\boldsymbol{b + 7}$$

3rd

Evaluate $n + \dfrac{8}{5}$ for *n = -1*

Evaluate $n + \dfrac{8}{5}$ for *n = -1*

Answer: $\qquad n + \dfrac{8}{5}$

$$-1 + \dfrac{8}{5}$$

$$\dfrac{-5}{5} + \dfrac{8}{5} = \dfrac{3}{5}$$

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Evaluate $2 \cdot 4^{x-2}$ for $x = 2$

Evaluate $2 \cdot 4^{x-2}$ for $x = 2$

Answer: $2 \cdot 4^{x-2}$

$2 \cdot 4^{2-2}$

$2 \cdot 4^0$

$2 \cdot 1 = \textbf{2}$

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Find the next two terms of the sequence: 1, 3, 7, 15, 31, ____, ____

Find the next two terms of the sequence: 1, 3, 7, 15, 31, ___, ___

Answer: 1, 3, 7, 15, 31, **63**, **127**

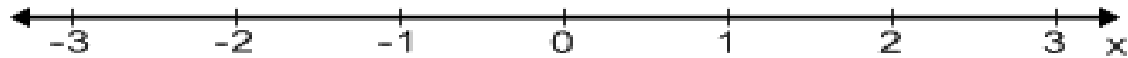(sequence has a difference that is double the size of the previous step; also this is $2^n - 1$ where n is term #)

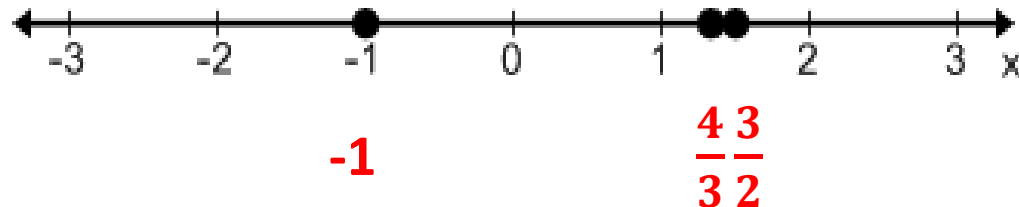Place the following in order on the number line: $\frac{4}{3}, \frac{3}{2}, -1$

Place the following in order on the number line: $\dfrac{4}{3}, \dfrac{3}{2}, -1$

Answer:

-1 $\dfrac{4}{3}\ \dfrac{3}{2}$

Simplify:

$$x^2 \cdot \frac{x}{y}$$

Simplify:

$$x^2 \cdot \frac{x}{y}$$

Answer:
$$\frac{x^2}{1} \cdot \frac{x}{y}$$

$$\frac{\boldsymbol{x^3}}{\boldsymbol{y}}$$

Simplify:

$$\sqrt{16 + 9}$$

Simplify:

$$\sqrt{16 + 9}$$

Answer: $\sqrt{16 + 9}$

$\sqrt{25} = $ **5**

Simplify:

$$\sqrt{16} + 9$$

32

Simplify:

$$\sqrt{16} + 9$$

Answer: $\sqrt{16} + 9$

$4 + 9 =$ **13**

Simplify:

$$-3x - (-4x)$$

34

Simplify:

$$-3x - (-4x)$$

Answer: $-3x - (-4x)$

$$-3x + (+4x)$$

$$-3x + 4x = \mathbf{\textcolor{red}{x}}$$

35

Solve for y: $y + 3x = 5$

Solve for y: $y + 3x = 5$

Answer:

$$y + 3x = 5$$

$$y + 3x - 3x = 5 - 3x$$

$$\boldsymbol{y = 5 - 3x}$$

Wednesday, October 9, 2013 th

Simplify:

$$3x^5xy$$

Simplify:

$$3x^5 xy$$

Answer: $\boldsymbol{3x^6 y}$

Simplify:

$$4x^2 \div 2x$$

Simplify:

$$4x^2 \div 2x$$

Answer:

$$4x^2 \div 2x$$

$$2x^2 \div x$$

$$2x \div 1 = \textcolor{red}{\mathbf{2x}}$$

Simplify:

$$4xy \div x^2$$

Simplify:

$$4xy \div x^2$$

Answer:

$$4xy \div x^2$$

$$4y \div x$$

$$\frac{4y}{x}$$

Simplify:

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

Simplify:

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

Answer:

$$2(x + 1) + 3(x - 1)$$
$$2x + 2 + 3x - 3$$
$$\mathbf{5x - 1}$$

45

Plot and label these points on the grid:
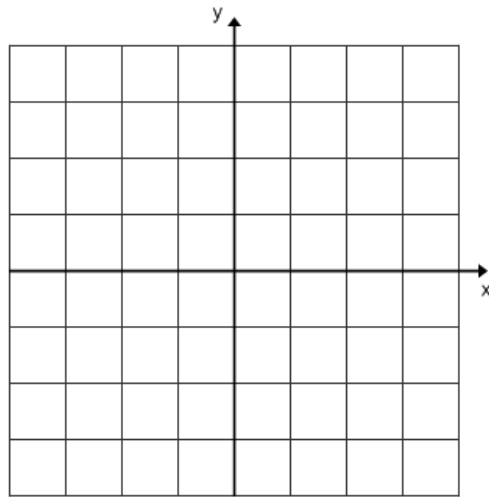
A(-3,0); B(2,3); C(4,-1), and D(-2,-4).

Plot and label these points on the grid:

A(-3,0); B(2,3); C(4,-1), and D(-2,-4).

Answer:
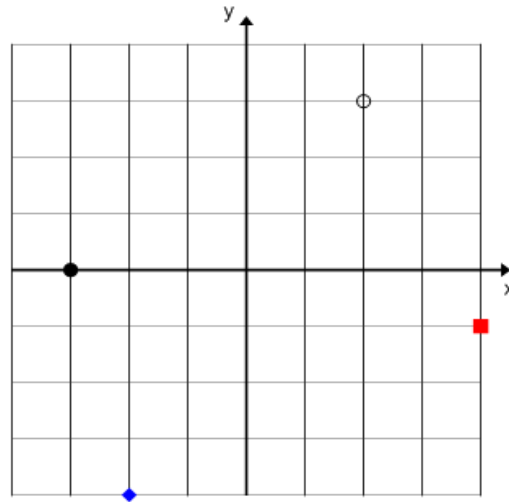
A: black dot

B: open dot

C: red square

D: blue diamond

A machine produces 1,030 candy bars in 5 hours. How many candy bars will the machine produce in 40 hours?

A machine produces 1,030 candy bars in 5 hours. How many candy bars will the machine produce in 40 hours?

Answer: $\dfrac{1,030 \text{ candy bars}}{5 \text{ hours}} = \dfrac{x \text{ candy bars}}{40 \text{ hours}}$

$$(1030)(40) = 5x$$

$$41200 = 5x$$

$$41200 \div 5 = 5x \div 5$$

$$x = \textbf{8240 candy bars}$$

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Thursday, October 10, 2013   4th

While shopping for new school clothes, Marco spent $68.00. He bought a pair of jeans for $33.00 and some T-shirts for $7.00 each. How many shirts did Marco buy?

Thursday, October 10, 2013   **4th**

While shopping for new school clothes, Marco spent $68.00. He bought a pair of jeans for $33.00 and some T-shirts for $7.00 each. How many shirts did Marco buy?

Answer: $33 + $7(# t-shirts) = $68

$$33 + 7t = 68$$

$$33 - 33 + 7t = 68 - 33$$

$$7t = 35$$

$$7t \div 7 = 35 \div 7$$

$$t = \textbf{5 T-shirts}$$

Simplify:

$$\frac{36x^4y^2}{9x^3y^2}$$

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Simplify:

$$\frac{36x^4y^2}{9x^3y^2}$$

Answer:

$$\frac{36x^4y^2}{9x^3y^2}$$

$$\frac{36}{9} \cdot \frac{x^4}{x^3} \cdot \frac{y^2}{y^2}$$

$$4 \cdot x^{4-3} \cdot y^{2-2}$$

$$4 \cdot x \cdot 1 = \textcolor{red}{\boldsymbol{4x}}$$

Rearrange the numbers below in **ascending** order:

$$\frac{1}{3}, 0.003, 3.5 \times 10^{-3}, 35\%, 0.3$$

Rearrange the numbers below in **ascending** order:

$$\frac{1}{3}, 0.003, 3.5 \times 10^{-3}, 35\%, 0.3$$

Answer: In decimals, these are:

$$0.333\ldots, 0.003, 0.0035, 0.35, 0.3$$

So: $\mathbf{0.003, 3.5 \times 10^{-3}, 0.3, \frac{1}{3}, 35\%}$

Thursday, October 10, 2013   7th

Simplify:

$$\frac{(12-3^2)(5)}{-3+4\times 2}$$

Thursday, October 10, 2013   **7th**

Simplify:

$$\frac{(12-3^2)(5)}{-3+4\times 2}$$

Answer:

$$\frac{(12-3^2)(5)}{-3+4\times 2} = \frac{(12-9)(5)}{-3+4\times 2}$$

$$= \frac{3(5)}{-3+4\times 2} = \frac{15}{-3+8}$$

$$= \frac{15}{5} = 3$$

Write an equation for:

Twice a number plus 2 is four.

(Let *x* be the variable.)

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Write an equation for:

Twice a number plus 2 is four.

(Let *x* be the variable.)

Answer: 2(number) + 2 = 4

2x + 2 = 4

Find the next two numbers in the sequence below:

15, 22, 19, 26, 23, 30, __, __

Find the next two numbers in the sequence below:

15, 22, 19, 26, 23, 30, ___, ___

Answer: 15, 22, 19, 26, 23, 30, **27**, **34**

You have $240 in a bank account. You have decided to deposit $7 a week to your bank account. What is your balance after five weeks?

62

You have $240 in a bank account. You have decided to deposit $7 a week to your bank account. What is your balance after five weeks?

Answer: $240 + 5($7) = ?

$240 + $35 = **$295**

The monthly payment on a loan is $29.50 for every $1,000 borrowed. At this rate, find the monthly payment for a $7,500 car loan.

64

The monthly payment on a loan is $29.50 for every $1,000 borrowed. At this rate, find the monthly payment for a $7,500 car loan.

Answer: Since 7.5 thousands are being borrowed, you must pay 7.5 times $29.50:

$$7.5(\$29.50) = \mathbf{\$221.25}$$

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A third of a teaspoon of baking soda is needed for every batch of chocolate chip cookies. Using the table below, how much baking soda is needed to make 14 batches of chocolate chip cookies?

Batches	1	2	3	4
Baking Soda (tsp)	$\frac{1}{3}$	$\frac{2}{3}$	1	$1\frac{1}{3}$

Friday, October 11, 2013   **5th**

A third of a teaspoon of baking soda is needed for every batch of chocolate chip cookies. Using the table below, how much baking soda is needed to make 14 batches of chocolate chip cookies?

Batches	1	2	3	4
Baking Soda (tsp)	$\frac{1}{3}$	$\frac{2}{3}$	1	$1\frac{1}{3}$

Answer: 14 one-thirds of a teaspoon are needed for 14 batches.

$$\frac{14}{3} = 4\frac{2}{3} \textbf{ teaspoons}$$

Solve the inequality for x:
$$1 + 2x < 17$$

Solve the inequality for x:
$$1 + 2x < 17$$

Answer:
$$1 + 2x < 17$$
$$1 - 1 + 2x < 17 - 1$$
$$2x < 16$$
$$2x \div 2 < 16 \div 2$$
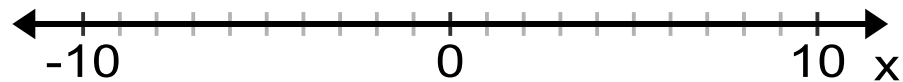$$\boldsymbol{x < 8}$$

Graph the solution to $1 + 2x < 17$ on the number line below:

Graph the solution to $1 + 2x < 17$ on the number line below:

Answer: from 6th hour, we know this is **x < 8:**