Daily Math
Week 27 (2013-2014)

Mon. March 3, 2014
Tues. March 4, 2014
Wed. March 5, 2014
Thurs. March 6, 2014

Monday, March 3, 2014

1st

Simplify:

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

Monday, March 3, 2014

1st

Simplify:

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

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

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

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

Monday, March 3, 2014

2nd

Simplify:

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

Monday, March 3, 2014

2^{nd}

Simplify:

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

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

$7b+7-6b$

$\boldsymbol{b+7}$

Monday, March 3, 2014

3rd

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

Monday, March 3, 2014

3rd

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

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

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

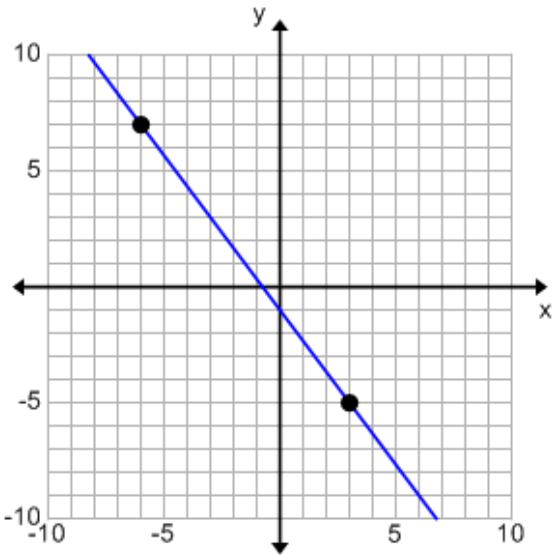
$2 \cdot 4^{0}$

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

Monday, March 3, 2014

4th

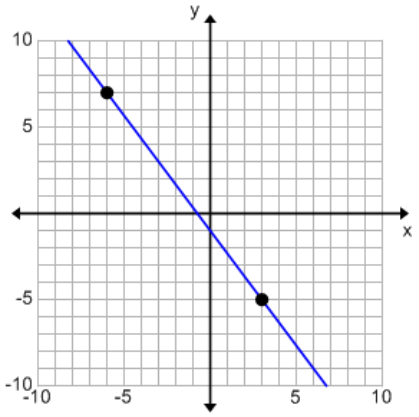
Find the equation of the line shown on the graph.



Monday, March 3, 2014

4th

Find the equation of the line shown on the graph.



Answer: y = $mx + b$

b = -1 (y-intercept)

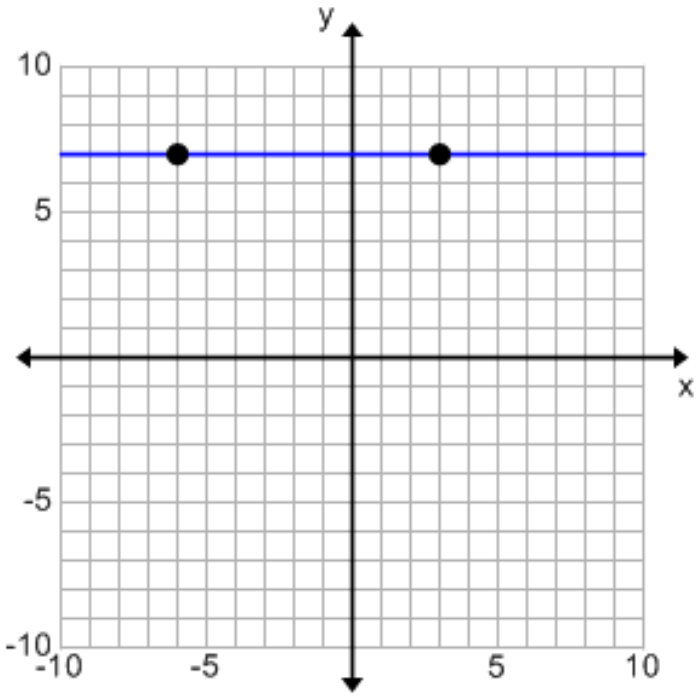
$$m = \frac{rise}{run} = \frac{-5-7}{3-(-6)} = \frac{-12}{+9} = -\frac{4}{3}$$

$$\boldsymbol{y = -\frac{4}{3}x - 1}$$

Monday, March 3, 2014

5th

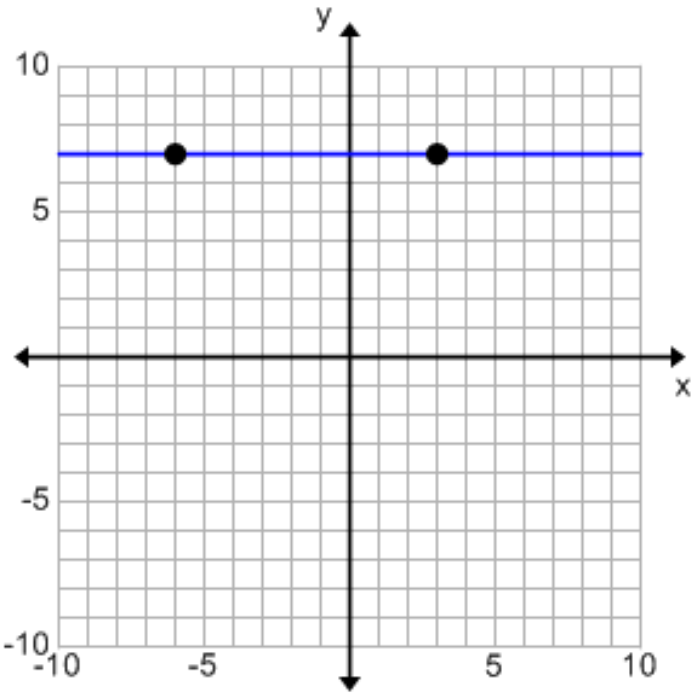
Find the equation of the line shown on the graph.



Monday, March 3, 2014

5th

Find the equation of the line shown on the graph.



Answer: $y = mx + b$

m = 0 (slope = 0)

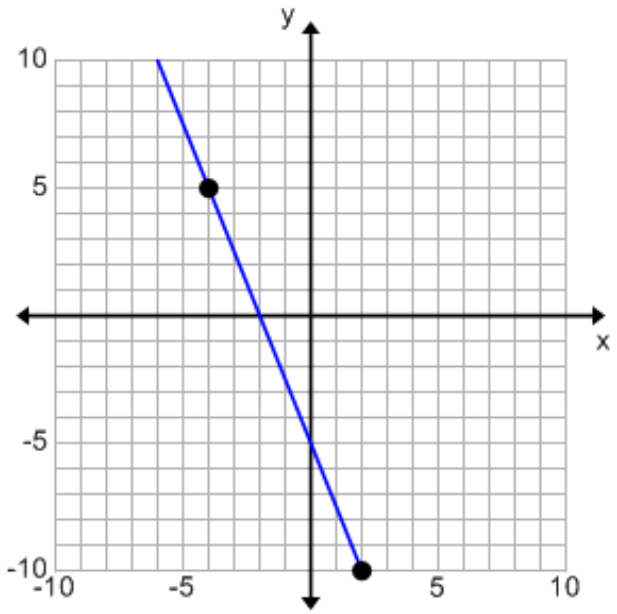
b = 7

$$y = 7$$

Monday, March 3, 2014

6th

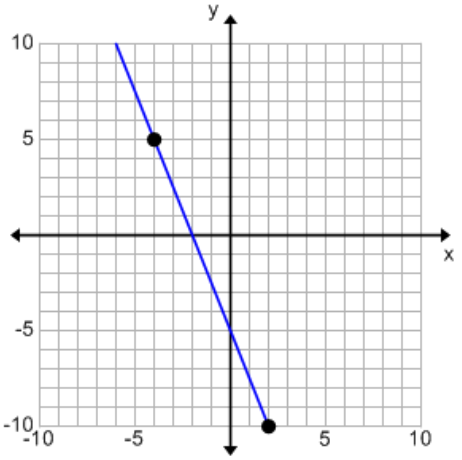
Find the equation of the line shown on the graph.



Monday, March 3, 2014

6th

Find the equation of the line shown on the graph.



Answer: $y = mx + b$

b = -5 (y-intercept)

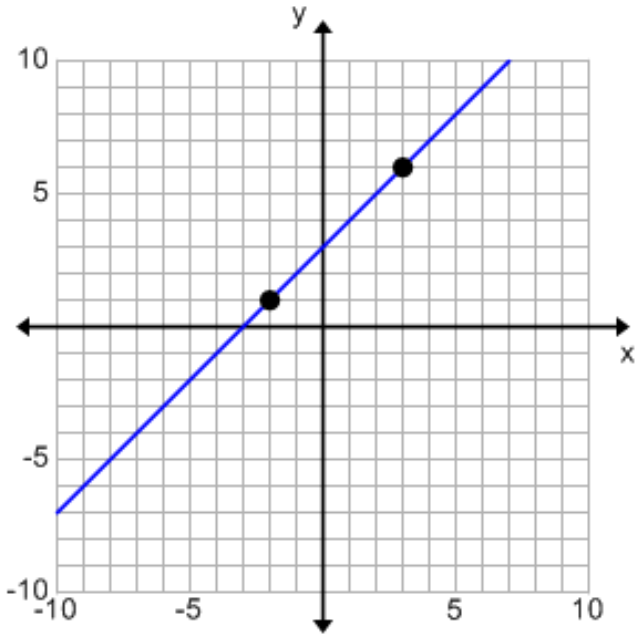
$$m = \frac{rise}{run} = \frac{-10-5}{2-(-4)} = \frac{-15}{+6} = -\frac{5}{2}$$

$$\boldsymbol{y = -\frac{5}{2}x - 5}$$

Monday, March 3, 2014

7th

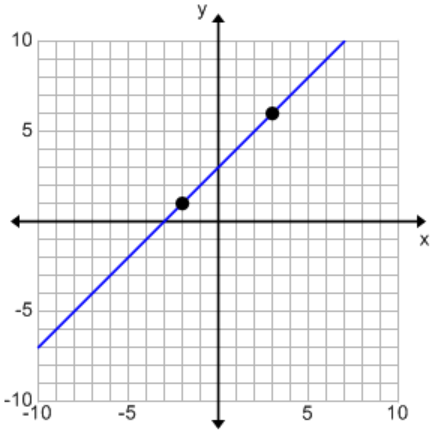
Find the equation of the line shown on the graph.



Monday, March 3, 2014

7th

Find the equation of the line shown on the graph.



Answer: $y = mx + b$

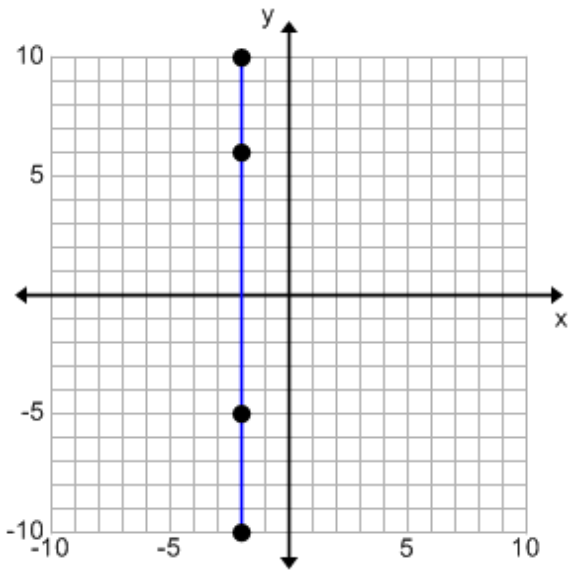
b = 3 (y-intercept)

$$m = \frac{rise}{run} = \frac{6-1}{3-(-2)} = \frac{5}{5} = 1$$

$$\boldsymbol{y = x + 3}$$

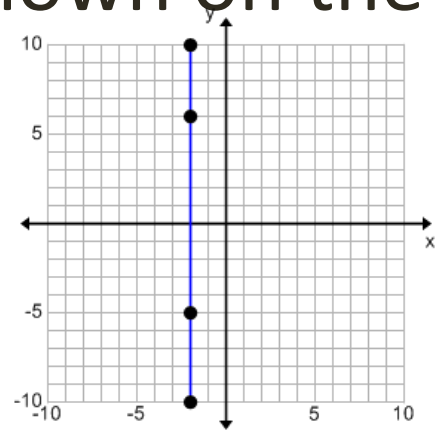
Tuesday, March 4, 2014 1st

Find the equation of the line shown on the graph.



Tuesday, March 4, 2014 1st

Find the equation of the line shown on the graph.



Answer: y = *m*x + *b*

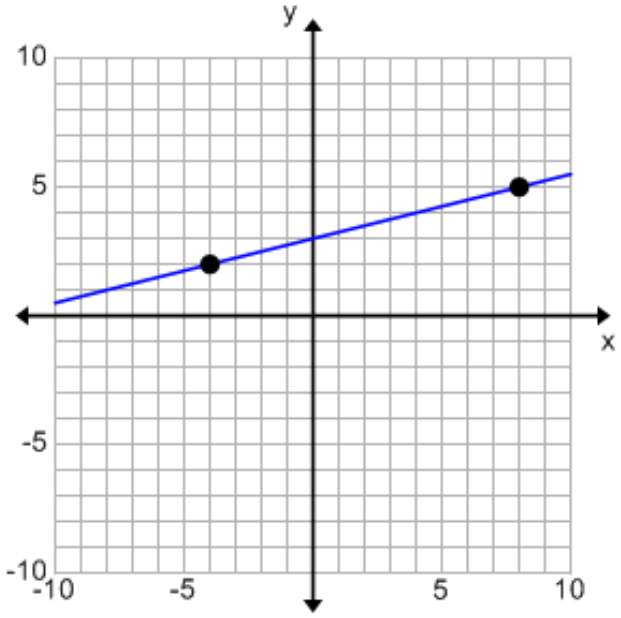
b = doesn't exist (vertical line)

m = undefined (vertical line, run = 0)

$$x = -2$$

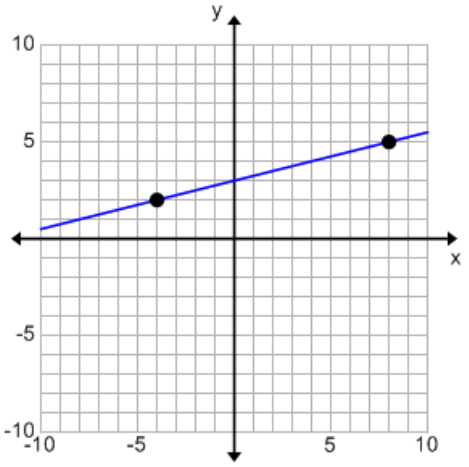
Tuesday, March 4, 2014 2nd

Find the equation of the line shown on the graph.



Tuesday, March 4, 2014 2nd

Find the equation of the line shown on the graph.



Answer: y = *m*x + *b*

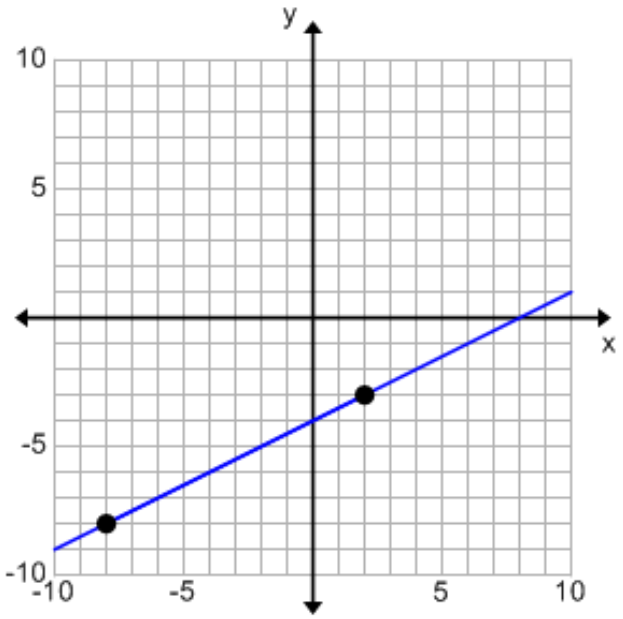
b = 3(y-intercept)

$$m = \frac{rise}{run} = \frac{5-2}{8-(-4)} = \frac{3}{+12} = \frac{1}{4}$$

$$\boldsymbol{y = \frac{1}{4}x + 3}$$

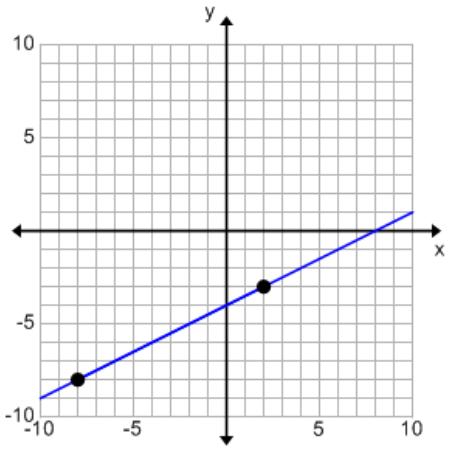
Tuesday, March 4, 2014 3rd

Find the equation of the line shown on the graph.



Tuesday, March 4, 2014 3rd

Find the equation of the line shown on the graph.



Answer: y = *m*x + *b*

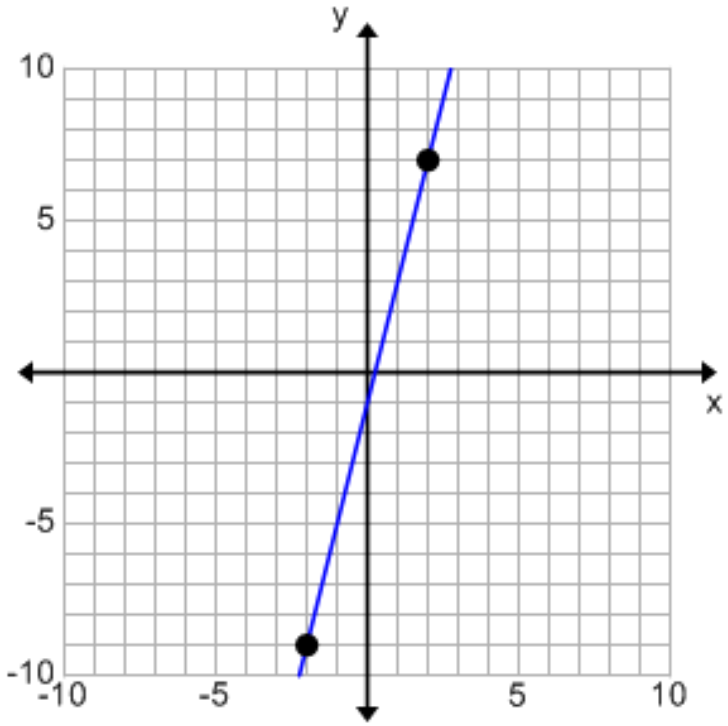
b = -4 (y-intercept)

$$m = \frac{rise}{run} = \frac{-3-(-8)}{2-(-8)} = \frac{+5}{+10} = +\frac{1}{2}$$

$$\boldsymbol{y = \frac{1}{2}x - 4}$$

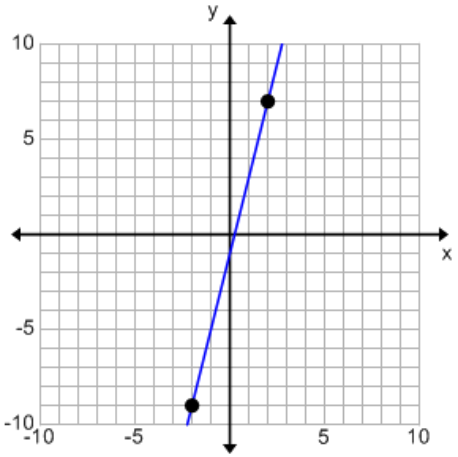
Tuesday, March 4, 2014 4th

Find the equation of the line shown on the graph.



Tuesday, March 4, 2014 4th

Find the equation of the line shown on the graph.



Answer: y = *m*x + *b*

b = -1 (y-intercept)

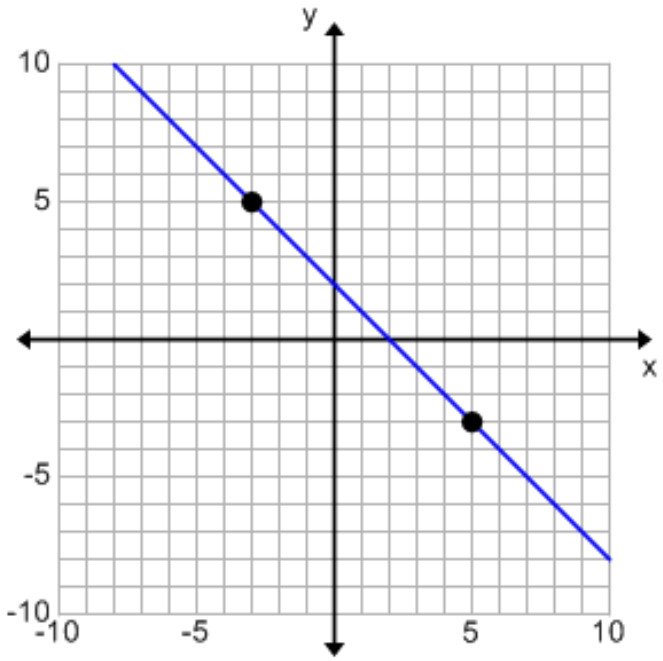
$$m = \frac{rise}{run} = \frac{7-(-9)}{2-(-2)} = \frac{16}{4} = 4$$

$$\boldsymbol{y = 4x - 1}$$

Tuesday, March 4, 2014

5th

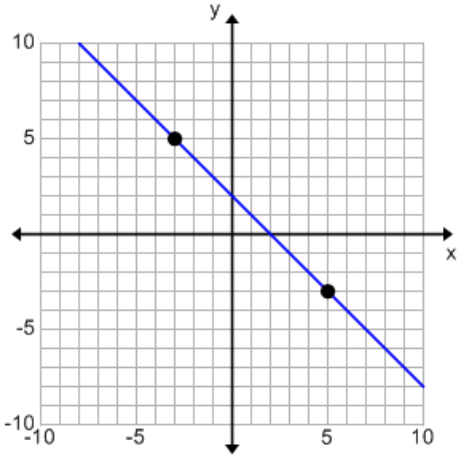
Find the equation of the line shown on the graph.



Tuesday, March 4, 2014

5th

Find the equation of the line shown on the graph.



Answer: y = *m*x + *b*

b = 2(y-intercept)

$$m = \frac{rise}{run} = \frac{-3-5}{5-(-3)} = \frac{-8}{+8} = -1$$

$$\boldsymbol{y = -x + 2}$$

Tuesday, March 4, 2014

6^{th}

Simplify: $\sqrt{72}$

Tuesday, March 4, 2014

6^{th}

Simplify: $\sqrt{72}$

Answer: $\sqrt{72} = \sqrt{36 \cdot 2}$

$= \sqrt{36} \cdot \sqrt{2}$

$= \mathbf{6\sqrt{2}}$

Tuesday, March 4, 2014

7th

Simplify: $\sqrt{20}$

Tuesday, March 4, 2014

7^{th}

Simplify: $\sqrt{20}$

Answer: $\sqrt{20} = \sqrt{4 \cdot 5}$

$= \sqrt{4} \cdot \sqrt{5}$

$= \mathbf{2\sqrt{5}}$

Wednesday, March 5, 2014 1st

Simplify: $-\sqrt{32}$

Wednesday, March 5, 2014 1st

Simplify: $-\sqrt{32}$

Answer: $-\sqrt{32} = -\sqrt{16 \cdot 2}$

$= -\sqrt{16} \cdot \sqrt{2}$

$= \mathbf{-4\sqrt{2}}$

Wednesday, March 5, 2014 **2nd**

Simplify: $2\sqrt{98}$

Wednesday, March 5, 2014 **2nd**

Simplify: $2\sqrt{98}$

Answer: $2\sqrt{98} = 2\sqrt{49 \cdot 2}$

$= 2\sqrt{49} \cdot \sqrt{2}$

$= 2 \cdot 7 \cdot \sqrt{2} = \mathbf{14\sqrt{2}}$

Wednesday, March 5, 2014 3rd

Simplify: $3\sqrt{80}$

Wednesday, March 5, 2014 3rd

Simplify: $3\sqrt{80}$

Answer: $3\sqrt{80} = 3\sqrt{4 \cdot 4 \cdot 5}$

$= 3\sqrt{16} \cdot \sqrt{5}$

$= 3 \cdot 4 \cdot \sqrt{5} = \mathbf{12\sqrt{5}}$

Wednesday, March 5, 2014 4th

Simplify: $\sqrt{5} \cdot \sqrt{10}$

Wednesday, March 5, 2014 4th

Simplify: $\sqrt{5} \cdot \sqrt{10}$

Answer: $\sqrt{5} \cdot \sqrt{10} = \sqrt{5 \cdot 5 \cdot 2}$

$= \sqrt{25} \cdot \sqrt{2}$

$= 5 \cdot \sqrt{2} = \mathbf{5\sqrt{2}}$

Wednesday, March 5, 2014 5th

Simplify: $(-3\sqrt{5}) \cdot (-2\sqrt{5})$

Wednesday, March 5, 2014 5th

Simplify: $(-3\sqrt{5}) \cdot (-2\sqrt{5})$

Answer: $(-3\sqrt{5}) \cdot (-2\sqrt{5})$

$$= (-3) \cdot (-2)\sqrt{5 \cdot 5}$$

$$= 6 \cdot \sqrt{25}$$

$$= 6 \cdot 5 = \mathbf{30}$$

Wednesday, March 5, 2014 6th

Simplify: $\sqrt{2} \cdot \sqrt{18}$

Wednesday, March 5, 2014 6th

Simplify: $\sqrt{2} \cdot \sqrt{18}$

Answer: $\sqrt{2} \cdot \sqrt{18}$

$= \sqrt{36}$

$= \mathbf{6}$

Wednesday, March 5, 2014 7th

Simplify: $2\sqrt{8} + 3\sqrt{8}$

Wednesday, March 5, 2014 7th

Simplify: $2\sqrt{8} + 3\sqrt{8}$

Answer: $2\sqrt{8} + 3\sqrt{8}$

$\sqrt{8}(2 + 3)$

$5\sqrt{8}$

$5\sqrt{4 \cdot 2} = 5\sqrt{4}\sqrt{2}$

$5 \cdot 2\sqrt{2} = \mathbf{10\sqrt{2}}$

Thursday, March 6, 2014 1st

Simplify: $5\sqrt{9} - \sqrt{9}$

Thursday, March 6, 2014 1st

Simplify: $5\sqrt{9} - \sqrt{9}$

Answer: $5\sqrt{9} - \sqrt{9}$

$5 \cdot 3 - 3$

$15 - 3 = \mathbf{12}$

Thursday, March 6, 2014 2nd

Simplify:

$$2\sqrt{12} + 3\sqrt{12} + 5\sqrt{3}$$

Thursday, March 6, 2014 2nd

Simplify:

$$2\sqrt{12} + 3\sqrt{12} + 5\sqrt{3}$$

Answer: $2\sqrt{12} + 3\sqrt{12} + 5\sqrt{3}$

$$5\sqrt{12} + 5\sqrt{3}$$

$$5\sqrt{4 \cdot 3} + 5\sqrt{3}$$

$$5 \cdot 2\sqrt{3} + 5\sqrt{3} = 10\sqrt{3} + 5\sqrt{3}$$

$$\mathbf{15\sqrt{3}}$$

Thursday, March 6, 2014 3rd

Simplify:

$$\left(-3\sqrt{24}\right) + \left(-4\sqrt{24}\right)$$

Thursday, March 6, 2014 3rd

Simplify:

$$(-3\sqrt{24}) + (-4\sqrt{24})$$

Answer: $(-3\sqrt{24}) + (-4\sqrt{24})$

$$-7\sqrt{24}$$

$$-7\sqrt{4 \cdot 6}$$

$$-7\sqrt{4}\sqrt{6}$$

$$-7 \cdot 2 \cdot \sqrt{6} = \mathbf{-14\sqrt{6}}$$

Thursday, March 6, 2014 4th

Simplify:

$$-3\sqrt{48} - 4\sqrt{48} + \sqrt{48}$$

Thursday, March 6, 2014 4th

Simplify:

$$-3\sqrt{48} - 4\sqrt{48} + \sqrt{48}$$

Answer: $-3\sqrt{48} - 4\sqrt{48} + \sqrt{48}$

$$-6\sqrt{48}$$

$$-6\sqrt{16 \cdot 3}$$

$$-6\sqrt{16}\sqrt{3}$$

$$-6 \cdot 4 \cdot \sqrt{3} = \mathbf{-24\sqrt{3}}$$

Thursday, March 6, 2014 5th

Simplify: $(-3b^2)^5$

Thursday, March 6, 2014 5th

Simplify: $(-3b^2)^5$

Answer: $(-3b^2)^5$

$(-3)^5(b^2)^5$

$\boldsymbol{-243b^{10}}$

Thursday, March 6, 2014 6th

Simplify: $(-3x^5)^2$

Thursday, March 6, 2014 6th

Simplify: $(-3x^5)^2$

Answer: $(-3x^5)^2$

$(-3)^2(x^5)^2$

$\mathbf{9x^{10}}$

Thursday, March 6, 2014 7th

Simplify: $(-4)^0(x^3)^4$

Thursday, March 6, 2014 7th

Simplify: $(-4)^0(x^3)^4$

Answer: $(-4)^0(x^3)^4$

$1(x^3)^4$

$\boldsymbol{x^{12}}$