

Daily Math

Week 21 (2013-2014)

Tues. January 21, 2014

Wed. January 22, 2014

Thurs. January 23, 2014

Fri. January 24, 2014

Tuesday, January 21, 2014

1st

Simplify:

$$4x - 7x + 3z$$

Tuesday, January 21, 2014

1st

Simplify:

$$4x - 7x + 3z$$

Answer: $4x - 7x + 3z$

$$**-3x + 3z**$$

Tuesday, January 21, 2014

2nd

Simplify:

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

Tuesday, January 21, 2014

2nd

Simplify:

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

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

$$4\sqrt{3}$$

Tuesday, January 21, 2014

3rd

Simplify:

$$\sqrt{4}\sqrt{4}\sqrt{2}$$

Tuesday, January 21, 2014

3rd

Simplify:

$$\sqrt{4}\sqrt{4}\sqrt{2}$$

Answer: $\sqrt{4}\sqrt{4}\sqrt{2}$

$$2 \cdot 2 \cdot \sqrt{2}$$

$$4\sqrt{2}$$

Tuesday, January 21, 2014

4th

If $x = 9$, $y = -3$, and $z = 4$,
then $y(\sqrt{x} + z) = ?$

Tuesday, January 21, 2014

4th

If $x = 9$, $y = -3$, and $z = 4$,
then $= y(\sqrt{x} + z)$?

Answer: $y(\sqrt{x} + z)$
 $-3(\sqrt{9} + 4)$
 $-3(3 + 4)$
 $-3(7) = -21$

Tuesday, January 21, 2014

5th

Simplify:

$$a^2 \cdot 3a \cdot 2a^2$$

Tuesday, January 21, 2014

5th

Simplify:

$$a^2 \cdot 3a \cdot 2a^2$$

Answer: $a^2 \cdot 3a \cdot 2a^2$

$$3 \cdot 2 \cdot a^{2+1+2}$$

$$6a^5$$

Tuesday, January 21, 2014

6th

Simplify:

$$\frac{5x + 10x}{5x}$$

Tuesday, January 21, 2014

6th

Simplify:

$$\frac{5x + 10x}{5x}$$

Answer: $\frac{5x + 10x}{5x}$

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

Tuesday, January 21, 2014

7th

Simplify:

$$a^2 + 3a + 2a^2 - 5a$$

Tuesday, January 21, 2014

7th

Simplify:

$$a^2 + 3a + 2a^2 - 5a$$

Answer: $a^2 + 3a + 2a^2 - 5a$

$$a^2 + 2a^2 + 3a - 5a$$

$$**3a^2 - 2a**$$

Wednesday, January 22, 2014 1st

Simplify:

$$(k^2 + 3k - 5) + (3k^2 - k + 3)$$

Wednesday, January 22, 2014 1st

Simplify:

$$(k^2 + 3k - 5) + (3k^2 - k + 3)$$

Answer: $(k^2 + 3k - 5) + (3k^2 - k + 3)$

$$k^2 + 3k - 5 + 3k^2 - k + 3$$

$$**4k^2 + 2k - 2**$$

Wednesday, January 22, 2014 **2nd**

Simplify:

$$\sqrt{32}$$

Wednesday, January 22, 2014 2nd

Simplify:

$$\sqrt{32}$$

Answer:

$$\sqrt{32}$$

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

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

$$4\sqrt{2}$$

Wednesday, January 22, 2014 **3rd**

If $a = -3$ and $b = 4$,

$$\text{then } 2a^2 + \frac{1}{2}b = ?$$

Wednesday, January 22, 2014 3rd

If $a = -3$ and $b = 4$,

$$\text{then } 2a^2 + \frac{1}{2}b = ?$$

$$\text{Answer: } 2a^2 + \frac{1}{2}b$$

$$2(-3)^2 + \frac{1}{2}(4)$$

$$2 \cdot 9 + 2 = 18 + 2$$

20

Wednesday, January 22, 2014 4th

Simplify:

$$(x^2 + 1)^0$$

Wednesday, January 22, 2014 4th

Simplify:

$$(x^2 + 1)^0$$

Answer: $(x^2 + 1)^0$

Any value raised to zero power is equal to 1.

1

Wednesday, January 22, 2014

5th

Simplify:

$$4xy \div x^2$$

Wednesday, January 22, 2014

5th

Simplify:

$$4xy \div x^2$$

Answer: $4xy \div x^2$

$$4y \div x$$

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

Wednesday, January 22, 2014

6th

Simplify:

$$\frac{3}{5}x + \frac{2}{3}y - \frac{1}{15}x - y$$

Wednesday, January 22, 2014

6th

Simplify:

$$\frac{3}{5}x + \frac{2}{3}y - \frac{1}{15}x - y$$

Answer: $\frac{3}{5}x + \frac{2}{3}y - \frac{1}{15}x - y$

$$\frac{3}{5}x - \frac{1}{15}x + \frac{2}{3}y - y$$

$$\left(\frac{3}{5} - \frac{1}{15}\right)x + \left(\frac{2}{3} - 1\right)y$$

$$\left(\frac{9}{15} - \frac{1}{15}\right)x + \left(\frac{2}{3} - \frac{3}{3}\right)y$$

$$\frac{8}{15}x - \frac{1}{3}y$$

Wednesday, January 22, 2014 7th

Simplify:

$$(4a^3 - 6a^2 - 5a) - (2a^3 + 3a^2 - 6a)$$

Wednesday, January 22, 2014 7th

Simplify:

$$(4a^3 - 6a^2 - 5a) - (2a^3 + 3a^2 - 6a)$$

Answer:

$$(4a^3 - 6a^2 - 5a) - (2a^3 + 3a^2 - 6a)$$

$$4a^3 - 6a^2 - 5a - 2a^3 - 3a^2 + 6a$$

$$2a^3 - 9a^2 + a$$

Thursday, January 23, 2014

1st

Simplify:

$$\sqrt{8}$$

Thursday, January 23, 2014

1st

Simplify:

$$\sqrt{8}$$

Answer: $\sqrt{8}$

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

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

$$2\sqrt{2}$$

Thursday, January 23, 2014

2nd

If $x = 81$, $y = 3$, and $z = 1$,

then $y\sqrt{x} - z = ?$

Thursday, January 23, 2014

2nd

If $x = 81$, $y = 3$, and $z = 1$,
then $y\sqrt{x} - z = ?$

Answer: $y\sqrt{x} - z$

$$3\sqrt{81} - 1$$

$$3 \cdot 9 - 1 = 27 - 1$$

$$26$$

Thursday, January 23, 2014

3rd

Simplify:

$$2x^3 \cdot 3x^2$$

Thursday, January 23, 2014

3rd

Simplify:

$$2x^3 \cdot 3x^2$$

Answer: $2x^3 \cdot 3x^2$

$$2 \cdot 3 \cdot x^3 \cdot x^2$$

$$6x^5$$

Thursday, January 23, 2014

4th

Simplify: $\left(3x + \frac{4x^2}{x}\right)^0$

Thursday, January 23, 2014

4th

Simplify: $\left(3x + \frac{4x^2}{x}\right)^0$

Answer: $\left(3x + \frac{4x^2}{x}\right)^0$

Any value raised to zero power is equal to 1.

1

Thursday, January 23, 2014

5th

Expand and simplify:

$$2(x + 1) - (-7x)$$

Thursday, January 23, 2014

5th

Expand and simplify:

$$2(x + 1) - (-7x)$$

Answer: $2(x + 1) - (-7x)$

$$2x + 2 + 7x$$

$$**9x + 2**$$

Thursday, January 23, 2014

6th

Simplify:

$$(2r^2 - 2r - 6r^3) + (4r^2 - 6r + r^3)$$

Thursday, January 23, 2014

6th

Simplify:

$$(2r^2 - 2r - 6r^3) + (4r^2 - 6r + r^3)$$

Answer:

$$(2r^2 - 2r - 6r^3) + (4r^2 - 6r + r^3)$$

$$2r^2 + 4r^2 - 2r - 6r - 6r^3 + r^3$$

$$6r^2 - 8r - 5r^3$$

$$**-5r^3 + 6r^2 - 8r**$$

Thursday, January 23, 2014

7th

Simplify:

$$\sqrt{8}\sqrt{2}$$

Thursday, January 23, 2014

7th

Simplify:

$$\sqrt{8}\sqrt{2}$$

Answer:

$$\sqrt{8}\sqrt{2}$$

$$\sqrt{16}$$

4

Friday, January 24, 2014

1st

If $a = -1$

then $a^3 + a^2 = ?$

Friday, January 24, 2014

1st

If $a = -1$

then $a^3 + a^2 = ?$

Answer: $a^3 + a^2$

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

$$-1 + 1 = 0$$

Friday, January 24, 2014

2nd

Simplify:

$$\frac{(2a^2)^4}{a^2}$$

Friday, January 24, 2014

2nd

Simplify:

$$\frac{(2a^2)^4}{a^2}$$

Answer:

$$\frac{(2a^2)^4}{a^2}$$

$$\frac{2^4 a^8}{a^2}$$

$$16a^6$$

Friday, January 24, 2014

3rd

Simplify:

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

Friday, January 24, 2014

3rd

Simplify:

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

Answer: $4x^2 \div 2x$

$$\frac{4x^2}{2x} = \frac{4}{2} \cdot \frac{x^2}{x}$$

$2x$

Friday, January 24, 2014

4th

Expand and simplify:

Friday, January 24, 2014

4th

Expand and simplify:

$$\text{Answer: } 3(3x + 5) - 4(2x - 3)$$

$$9x + 15 - 8x + 12$$

$$**x + 27**$$

Friday, January 24, 2014

5th

Simplify:

$$(3x^2 + 4 + x^4) - (x^2 - 7 - 7x^4)$$

Friday, January 24, 2014

5th

Simplify:

$$(3x^2 + 4 + x^4) - (x^2 - 7 - 7x^4)$$

Answer:

$$(3x^2 + 4 + x^4) - (x^2 - 7 - 7x^4)$$

$$3x^2 + 4 + x^4 - x^2 + 7 + 7x^4$$

$$2x^2 + 11 + 8x^4$$

$$\mathbf{8x^4 + 2x^2 + 11}$$

Friday, January 24, 2014

6th

Simplify:

$$\sqrt{60}$$

Friday, January 24, 2014

6th

Simplify:

$$\sqrt{60}$$

Answer: $\sqrt{60}$

$$\sqrt{4 \cdot 15}$$

$$\sqrt{4} \cdot \sqrt{15}$$

$$2\sqrt{15}$$

Friday, January 24, 2014

7th

Simplify:

$$a^2 \cdot 3a \cdot 2a^{-2}$$

Friday, January 24, 2014

7th

Simplify:

$$a^2 \cdot 3a \cdot 2a^{-2}$$

Answer: $a^2 \cdot 3a \cdot 2a^{-2}$

$$3 \cdot 2 \cdot a^{2+1-2}$$

$$6a$$