

Bellwork Alg 2 Tuesday, November 20, 2018

Simplify. Make sure no exponents are zero or negative in your answer. No decimals.

1. $\frac{-6a^{-4}b^6c^{-7}}{30a^{-7}b^9d^0}$

2. $\left(\frac{15g^3h^{-10}}{-5g^{-5}h^{-3}}\right)^{-3}$

3. $(-2w^4x^{-5}y^2)^3(4w^{-6}x^8y^3)^{-2}$

Simplify each radical.

4. $\sqrt{486}$

5. $\sqrt[3]{-189}$

6. $\sqrt[4]{972}$

Simplify. Make sure no exponents are zero or negative in your answer. No decimals.

1. $\frac{-6a^{-4}b^6c^{-7}}{30a^{-7}b^9d^0}$

$$\frac{a^3}{-5b^3c^7}$$

2. $\left(\frac{15g^3h^{-10}}{-5g^{-5}h^{-3}}\right)^{-3}$

$$\left(\frac{-3g^8}{h^7}\right)^{-3}$$

$$\left(\frac{h^7}{-3g^8}\right)^3$$

$$\frac{h^{21}}{-27g^{24}}$$

3. $(-2w^4x^{-5}y^2)^3(4w^{-6}x^8y^3)^{-2}$

$$(-8w^{12}x^{-15}y^6)\left(\frac{1}{16}w^{12}x^{-16}y^{-6}\right)$$

$$\frac{-8}{16}w^{24}x^{-31}y^0$$

$$\frac{w^{24}}{-2x^{31}}$$

Simplify each radical.

4. $\sqrt{486}$

$$\begin{aligned} &= \sqrt{81 \cdot 6} \\ &= \sqrt{81} \cdot \sqrt{6} \\ &= 9\sqrt{6} \end{aligned}$$

5. $\sqrt[3]{-189}$

$$\begin{aligned} &= \sqrt[3]{-27 \cdot 7} \\ &= \sqrt[3]{-27} \cdot \sqrt[3]{7} \\ &= -3\sqrt[3]{7} \end{aligned}$$

6. $\sqrt[4]{972}$

$$\begin{aligned} &= \sqrt[4]{81 \cdot 12} \\ &= \sqrt[4]{81} \cdot \sqrt[4]{12} \\ &= 3\sqrt[4]{12} \end{aligned}$$

$$\begin{aligned} 2^4 &= 16 \\ 3^4 &= 81 \\ 4^4 &= 256 \\ 5^4 &= 625 \end{aligned}$$