

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 each. Use absolute value symbols where necessary.

ANSWERS

1. $\sqrt[5]{-243a^{75}b^{40}}$

$-3a^{15}b^8$

No ABS. VAL. symbols because this is an ODD Radical

2. $\sqrt[4]{1250x^{28}y^{48}z^3}$

$\wedge$
 $625 = 5^4$

$5|x^7|y^{12}\sqrt[4]{2z^3}$

ABSOLUTE VALUE AROUND x^7 BECAUSE IT COULD BE NEGATIVE BUT SINCE IT'S COMING OUT OF AN EVEN RADICAL IT MUST BE POSITIVE.

y^{12} IS ALREADY GOING TO BE POSITIVE BECAUSE ITS BEING RAISED TO AN EVEN POWER

$2^4 = 16$
 $3^4 = 81$
 $4^4 = 256$
 $5^4 = 625$

3. $\sqrt{108m^9n^{23}p^{37}}$

$\wedge$
 $36 \cdot 3$

$6m^4|n^{11}|p^{18}\sqrt{3mnp}$

ABS VALUE AROUND n^{11} BECAUSE IT COULD BE NEGATIVE AND THIS IS AN EVEN RADICAL.

NO ABS. VALUE. AROUND m^4 & p^{18} BECAUSE THEIR EXPONENT IS EVEN WHICH MEANS THEY ARE ALREADY GOING TO BE POSITIVE.

4. $\sqrt[3]{384g^{14}h^{41}k^{30}}$

$\wedge$
 $128 \cdot 3$

$2g^2h^5k^4\sqrt[3]{3h^6k^2}$

NO ABS. VAL. symbols because index is ODD

$2^7 = 128$
 $3^7 = 2187$