# Algebra 2 Bellwork Tuesday, April 14, 2015

Simplify each. Use absolute value symbols where necessary.

1. $\sqrt[6]{a^{18}b^{14}c^{29}}$

2. $\sqrt[7]{256g^{17}h^{41}k^{5}}$

3. Find the original probem that gave the following simplified answers. Assume all variables represent positive numbers.

a) $3x^3y^7\sqrt{5x}$

b) $2d^5eg^2\sqrt[4]{2d^3e^2}$

Simplify each. Don't give answers with rounded decimals (this means if necessary give fractional answers in reduced form).

4. $(9x^8)^{-\frac{3}{2}}$

5. $(2m^{-\frac{7}{2}})^4$

# ALG 2 Bellwork Answers

(1) $\sqrt[6]{a^{18}b^{14}c^{29}} = |a^3|\,b^2c^4\sqrt[6]{b^2c^5}$

(2) $\sqrt[7]{256g^{17}h^{41}k^5} = 2g^2h^5\sqrt[7]{2g^3h^6k^5}$

$2^7 = 128 \longrightarrow 128 \cdot 2$

(3) a) $3x^3y^7\sqrt{5x} \longrightarrow \sqrt{45x^7y^{14}}$

b) $2d^5eg^2\sqrt[4]{2d^3e^2} \longrightarrow \sqrt[4]{32d^{23}e^6g^8}$

(4) a) $(9x^8)^{-3/2} = \frac{1}{(9x^8)^{3/2}} = \frac{1}{(\sqrt{9x^8})^3} = \frac{1}{(3x^4)^3}$

$= \frac{1}{27x^{12}}$

b) $(2m^{-7/2})^4 = \left(\frac{2}{m^{7/2}}\right)^4 = \frac{2^4}{(m^{7/2})^4} = \frac{16}{m^{14}}$