Bellwork Hon Alg 2 Thursday, March 16, 2017

Simplify each. Use absolute value symbols where necessary.

1. $\sqrt{108m^{12}n^{23}p^{37}}$

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

3. Simplify. Assume all variables are positive. $\sqrt[6]{1458a^{18}b^{14}c^{29}}$

4. Find the original problem that lead to the following simplified answers.

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

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

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

5. $(9x^8)^{-\frac{3}{2}}$

6. $(2m^{-\frac{7}{2}})^4$

Bellwork Hon Alg 2 Thursday, March 16, 2017 Answers

Simplify each. Use absolute value symbols where necessary.

1. $\sqrt{108m^{12}n^{23}p^{37}}$ $36 \cdot 3$ $= 6m^6n^{11}p^{18}\sqrt{3np}$

2. $\sqrt[7]{256g^{17}h^{41}k^{5}}$ $128 \cdot 2$ $2^7 = 128$ $= 2g^2h^5\sqrt[7]{2g^3h^6k^5}$

3. Simplify. Assume all variables are positive. $\sqrt[6]{1458a^{18}b^{14}c^{29}}$ $729 \cdot 2$ $3^6 = 729$ $= 3a^3b^2c^4\sqrt[6]{2b^2c^5}$

4. Find the original problem that lead to the following simplified answers.

a) $3x^3y^7\sqrt{x} = \sqrt{9x^7y^{14}}$

b) $2d^5eg^2\sqrt[4]{5d^3e^2} = \sqrt[4]{80d^{23}e^{6}g^{8}}$ $2^4 = 16$ $16 \cdot 5 = 80$

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

5. $(9x^8)^{-\frac{3}{2}}$

$9^{-3/2} \cdot (x^8)^{-3/2} = 9^{-3/2} \cdot x^{-12} = \frac{1}{(\sqrt{9})^3 x^{12}} = \frac{1}{27x^{12}}$

6. $(2m^{-\frac{7}{2}})^4 = 2^4 \cdot (m^{-7/2})^4 = 2^4 \cdot m^{-14} = \frac{16}{m^{14}}$