Bellwork Alg 2 Monday, January 27, 2020

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

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

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

4. One cube has an edge that is 3 cm shorter than the edge length of a second cube. The volume of the smaller cube is 200 $cm^3$. What is the volume of the larger cube? Round to the nearest tenth.

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Answers

Simplify each. Use absolute value symbols where necessary.

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

$36 \cdot 3$

$= 6m^6|n^{11}|p^{18}\sqrt{3np}$

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

$128 \cdot 2$

$2^7 = 128$

$3^7 = 2187$

$= 2g^2h^5\sqrt[7]{2g^3h^6k^5}$

3. Find the original problem that lead to the following answers.

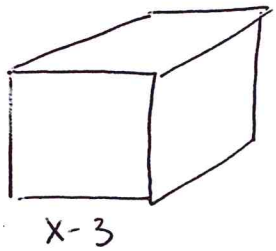
a) $3|x^3y^7|\sqrt{x} = \sqrt{3^2\ x^{6+1}\ y^{14}}$

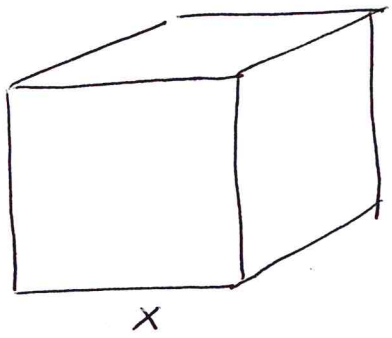
$= \sqrt{9x^7y^{14}}$

b) $2|d^5e|g^2\sqrt[4]{5d^3e^2} = \sqrt[4]{2^4 \cdot 5\ d^{20+3}\ e^{4+2}\ g^8}$

$= \sqrt[4]{80d^{23}e^6g^8}$

4. One cube has an edge that is 3 cm shorter than the edge length of a second cube. The volume of the smaller cube is 200 $cm^3$. What is the volume of the larger cube? Round to the nearest tenth.




$V = (x-3)^3$

$200 = (x-3)^3$

$\sqrt[3]{200} = \sqrt[3]{(x-3)^3}$

$5.8 = x - 3$

$+3 \quad +3$

$x = 8.8$

$V = x^3$

$V = (8.8)^3$

$V = 681.5\ cm^3$