# Bellwork Alg 2 Friday, November 30, 2018

1. Simplify. Use Absolute Value symbols where needed. $\sqrt[12]{2125764g^{334}h^{673}}$

2. State the original problem whose answers are the following:

a) $5c^8d^{11}\sqrt[4]{3c^2d^3}$ b) $3a^7b^4c^{21}\sqrt[6]{7ab^5c^3}$

3. Simplify each. Assume all variables are positive.

a) $\sqrt{42m^5n^{13}} \cdot \sqrt{30mn^8}$ b) $\sqrt[3]{49x^7y^{11}} \cdot \sqrt[3]{14x^4y^9}$


# Bellwork Alg 2 Friday, November 30, 2018

1. Simplify. Use Absolute Value symbols where needed. $\sqrt[12]{2125764g^{334}h^{673}}$

2. State the original problem whose answers are the following:

a) $5c^8d^{11}\sqrt[4]{3c^2d^3}$ b) $3a^7b^4c^{21}\sqrt[6]{7ab^5c^3}$

3. Simplify each. Assume all variables are positive.

a) $\sqrt{42m^5n^{13}} \cdot \sqrt{30mn^8}$ b) $\sqrt[3]{49x^7y^{11}} \cdot \sqrt[3]{14x^4y^9}$

# Alg 2 Bellwork Fri, Nov 30, 2018

Answers

① $\sqrt[12]{2125764\, g^{334} h^{673}}$

$2125764 = 3^{12} \cdot 4$

$= 3\,|g^{27}|\,h^{56}\sqrt[12]{4\, g^{10} h}$

$2^{12} = 4096$

$3^{12} = 531441$

$4^{12} = 16777216$

②

a) $5c^8 d^{11}\sqrt[4]{3c^2 d^3} = \sqrt[4]{5^4 \cdot 3\; c^{8+4+2}\, d^{11+3}}$

$= \sqrt[4]{1875\, c^{34} d^{47}}$

b) $3a^7 b^4 c^{21}\sqrt[6]{7ab^5 c^3} = \sqrt[6]{3^6 \cdot 7\; a^{7+1}\, b^{4+5}\, c^{21+3}}$

$= \sqrt[6]{5103\, a^{43} b^{29} c^{129}}$

③ a) $\sqrt{42 m^5 n^{13}} \cdot \sqrt{30 m n^8} = \sqrt{1260\, m^6 n^{21}} =$

$1260 = 36 \cdot 35$

$= 6 m^3 n^{10}\sqrt{35 n}$

b) $\sqrt[3]{49 x^7 y^{11}} \cdot \sqrt[3]{14 x^9 y^9} = \sqrt[3]{686 x^{11} y^{20}}$

$686 = 343 \cdot 2$

$= 7 x^3 y^6 \sqrt[3]{2 x^2 y^2}$

$2^3 = 8$

$3^3 = 27$

$4^3 = 64$

$5^3 = 125$

$6^3 = 216$

$7^3 = 343$