Name: _____ Period: _____ Date: _____

Simplifying Radicals Bell Work

1. Underline the correct words to complete each sentence.

a. The index of $\sqrt[3]{(-2)^3}$ is even/odd so $\sqrt[3]{(-2)^3} =$ _____

b. The index of $\sqrt[4]{2^4}$ is even/odd so $\sqrt[4]{2^4} =$ _____

2. Simplify the radicals.

a) $\sqrt{9} =$ _____ b) $\sqrt[3]{64} =$ _____ c) $\sqrt[3]{-125} =$ _____

3. Write T for true or F for false.

a) $\sqrt[3]{36} = \sqrt[3]{9} * \sqrt[3]{4}$ b) $\sqrt{12} * \sqrt{2} = \sqrt[4]{24}$

c) $\sqrt[3]{128x^7} = 4x^2\sqrt[3]{2x}$ d) $\frac{\sqrt{x}}{\sqrt[3]{y}} = \sqrt[6]{\frac{x}{y}}$

4. Circle the first step in simplifying the fraction. Underline the second step.

a. Combine radical expressions

b. Divide out common factors

c. Rationalize the denominator

d. Simplify each root

5. Write the simplest form of

$\sqrt[3]{32x^4} =$

Name: _____ Period: _____ Date: _____

Simplifying Radicals Bell Work

ANSWERS

1. Underline the correct words to complete each sentence.

a. The index of $\sqrt[3]{(-2)^3}$ is even/odd so $\sqrt[3]{(-2)^3} = -2$

b. The index of $\sqrt[4]{2^4}$ is even/odd so $\sqrt[4]{2^4} = \pm 2$

2. Simplify the radicals.

b) $\sqrt{9} = \pm 3$ b) $\sqrt[3]{64} = 4$ c) $\sqrt[3]{-125} = -5$

3. Write T for true or F for false.

b) $\sqrt[3]{36} = \sqrt[3]{9} * \sqrt[3]{4}$ **T** b) $\sqrt{12} * \sqrt{2} = \sqrt[4]{24}$ **F**

c) $\sqrt[3]{128x^7} = 4x^2\sqrt[3]{2x}$ **T** d) $\frac{\sqrt{x}}{\sqrt[3]{y}} = \sqrt[6]{\frac{x}{y}}$ **F**

4. Circle the first step in simplifying the fraction. Underline the second step.

a. Combine radical expressions

b. Divide out common factors

c. Rationalize the denominator

d. Simplify each root

5. Write the simplest form of

$\sqrt[3]{32x^4} = 2x\sqrt[3]{4x}$