

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Name: _____ Block: _____

Pre-Calculus 11: Radicals Quiz #1

Full credit will only be awarded for all work shown in a neat and organized manner.

1. Find all solutions to the following (if they exist):

a. $x^4 = 625$

b. $x^3 = -729$

2. **EXPLAIN** which is the correct answer to $\sqrt{x^8y^6z^2} =$

$x^4y^3|z|$

$x^4|y|^3|z|$

$|x|^4y^3|z|$

$|x|^4|y|^3z$

3. Express each radical in simplest radical form. All variables represent positive real numbers.

a. $\sqrt{450n^5m^{12}}$

b. $\sqrt[3]{-432x^7y^2}$

c. $\frac{\sqrt[4]{81x^3y^6}}{\sqrt[4]{8x^7y^7}}$

c. $(2x\sqrt{12x^5y})(3\sqrt{24xy^4})$

4. Write as an entire radical and simplify. All variables represent positive real numbers.

a. $-9a^2b\sqrt{4a^3b^2}$

b. $-\frac{4x^3}{y^2} \sqrt[3]{\frac{x^4y}{2}}$

5. Simplify each expression. All variables represent positive real numbers.

a. $7\sqrt{54} + 3\sqrt{6}$

b. $2\sqrt[3]{32} - 6\sqrt[3]{54}$

c. $xy\sqrt[3]{81x^2y^3} + x\sqrt[3]{24x^2y^6}$

d. $4\sqrt{32x^3} - 9x\sqrt{50x^2} - 2\sqrt{20x^4} + x\sqrt{18x}$

6. Find the perimeter of the right triangle. Simplify your answer.

