# Algebra 2 Review 7.1 and 7.2 Name:

 1. a. Find all the real square roots of $144$

 b. Find all the real fourth roots of $-81$

 c. Find all the real cube roots of $-0.125$

 2. Simplify each radical expression. Use **absolute value symbols** when needed.

 a. $\sqrt{16x^{8}y^{2}}$ b. $\sqrt[3]{-8z^{6}}$

 c. $\sqrt{121y^{10}}$ d. $\sqrt[3]{\left(x-9\right)^{3}}$

 3. Simplify. Assume all variables are positive.

 a. $\sqrt{36x^{3}}$ b. $\sqrt[4]{256s^{7}t^{12}}$

 c. $\sqrt{x^{2}y^{10}z}$ d. $\sqrt[3]{125y^{2}z^{4}}$

 4. Multiply. Simplify if possible. Assume all variables are positive.

 a. $\sqrt{3}∙\sqrt{27}$ b. $\sqrt[3]{4b^{2}}∙\sqrt[3]{16b^{6}}$

 c. $\sqrt{2a}∙\sqrt{8a^{9}}$ d. $\sqrt[3]{2xy^{2}}∙\sqrt[3]{4x^{2}y^{7}}$

 5. Divide and simplify. Assume all variables are positive.

 a. $\frac{\sqrt{125x^{7}}}{\sqrt{5x}}$ b. $\frac{\sqrt[3]{128x^{7}}}{\sqrt[3]{2x}}$

 6. Rationalize the denominator of the expression. Assume all variables are positive.

 a. $\frac{\sqrt{5x}}{\sqrt{3}}$ b. $\frac{\sqrt[3]{x^{2}}}{\sqrt[3]{3y}}$

 c. $\sqrt{\frac{9a}{2}}$ d. $\frac{\sqrt{5b^{3}}}{\sqrt{3a^{4}b}}$