# Algebra 2 Review 7.0 to 7.3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use your calculator to find each real-number root.**

 $\sqrt{144}$ $-\sqrt{0.09}$

 $\sqrt{-36}$ $\sqrt[3]{-216}$

**Find all the real cube roots of each number.**

 $216$

**Find all the real square roots of each number.**

 $400$

**Simplify each radical expression. Use absolute values when needed.**

 $\sqrt{81x^{4}}$ $\sqrt[3]{8g^{6}}$

 $\sqrt{18k^{6}}$ $\sqrt[4]{2401x^{12}}$

**Multiply and simplify. *Assume all variables are positive*.**

 $\sqrt{3x^{5}}∙\sqrt{27x^{3}}$ $4\sqrt{2x}∙3\sqrt{8x}$

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

 $\frac{\sqrt{6x}}{\sqrt{3x}}$ $\frac{\sqrt[3]{4x^{2}}}{\sqrt[3]{x}}$

**Rationalize each denominator. Simplify the answer.**

 $\frac{3}{\sqrt{5}}$ $\frac{\sqrt[3]{xy}}{\sqrt[3]{3x}}$

**Add or subtract if possible.**

 $9\sqrt{3}-\sqrt{3}$ $5\sqrt{2}-2\sqrt{3}$

**Multiply**

 $\left(1+4\sqrt{10}\right)\left(2-\sqrt{10}\right)$ $\left(\sqrt{11}-\sqrt{7}\right)\left(\sqrt{11}+\sqrt{7}\right)$

**Rationalize each denominator. Simplify the answer.**

 $\frac{3}{2\sqrt{7}}$ $\frac{2}{2\sqrt{3}-4}$

**Simplify. Rationalize all denominators. *Assume that all variables are positive*.**

 $\sqrt{28}+4\sqrt{63}-2\sqrt{7}$ $3\sqrt{225x}+5\sqrt{144x}$

 $\left(4-2\sqrt{3}\right)^{2}$ $\left(3\sqrt{y}-\sqrt{5}\right)\left(2\sqrt{y}+5\sqrt{5}\right)$

$\frac{2+\sqrt{14}}{\sqrt{7}+\sqrt{2}}$ $\frac{2+\sqrt[3]{x}}{\sqrt[3]{x}}$