Algebra 2
Review 8.5, 8.6, 8.8 **Name** Key

Solve each equation. Be sure to check your solutions!

1. $\frac{2}{7} + \frac{5}{x} = \frac{45}{7x}$ $x \neq 0$ $x = 5$

2. $\frac{2}{x-1} = \frac{5}{x}$ $x \neq 0 \quad x \neq 1$ $x = \frac{5}{3}$ $1\frac{2}{3}$

3. $\frac{14}{x} = 9 - x$ $x \neq 0$

4. $\frac{x+5}{x-1} + \frac{x}{2} = \frac{12}{2x-2}$ $x \neq 1$ $x = -2$

5. $\frac{2}{x-3} + \frac{5}{x+3} = \frac{7}{x^2-9}$ $x \neq \pm 3$ $\frac{14}{7} = 2\frac{2}{7}$

Simplify each expression. Assume all variables are positive.

6. $\sqrt{x^2-12x+36}$ $x-6$

7. $\sqrt{32x^3}$ $4x\sqrt{2x}$

Write in radical form and simplify.

8. $16^{\frac{5}{4}}$ 32 Radical form: $\sqrt[4]{16}^5$ Simplified: 32

Write using rational exponents. Then simplify.

9. $\left(\sqrt[3]{-1000}\right)^2$ 100 Rational exponents: $(-1000)^{\frac{2}{3}}$ Simplified: 100

Simplify.

10. $\sqrt{m} + \sqrt{m^3}$ $(1+m)\sqrt{m}$

$\sqrt{m} + m\sqrt{m} = \sqrt{m}(1+m)$

11. $2^{\frac{1}{3}} - 3\sqrt[3]{2}$ $-2\sqrt[3]{2}$

$\sqrt[3]{2} - 3\sqrt[3]{2} = \sqrt[3]{2}(1-3)$