

Name: _____

Review Rational Operations

Simplify each and state the excluded values.

$$1) \frac{x+6}{9x+54}$$

$$2) \frac{40a^2 - 64a}{80a^2}$$

Simplify each expression.

$$3) \frac{6a}{2a} + \frac{3a-6}{2a^2+12a}$$

$$4) \frac{6}{5x+6} - \frac{3x}{4}$$

$$5) \frac{n^2 - 6n + 5}{10n} \div \frac{n^2 - 11n + 10}{10n^2 - 100n}$$

$$6) \frac{-x^2 + 11x - 24}{x-8} \cdot \frac{x^2 - 14x + 40}{10x - 30}$$

$$7) \frac{\frac{m}{m+4} + \frac{25}{m^2}}{\frac{m^2}{m+4}}$$

$$8) \frac{\frac{x^2}{9} + \frac{3}{x}}{\frac{x+3}{x} + \frac{x}{3}}$$

Solve each equation. Remember to check for extraneous solutions.

$$9) \frac{1}{r^2+4r} + \frac{6}{r} = \frac{2}{r+4}$$

$$10) \frac{4}{b^2+4b+3} + 1 = \frac{b^2+2b-8}{b^2+4b+3}$$