

Chapter 8 Review
Honors Algebra 2

1. Simplify the following

a. $\frac{6c^2+9c}{3c}$

c. $\frac{5x-25}{10} \cdot \frac{20}{6x-30}$

e. $\frac{x^2-144}{x} \div \frac{3x+36}{x}$

b. $\frac{x^2-4x+4}{x^2-4}$

d. $\frac{x^2-9}{x^3+4x^2+4x} \cdot \frac{2x^2+4x}{x^2+2x-15}$

f. $\frac{x^2-9}{x^2-x-20} \div \frac{4x-12}{2x-10}$

2. Add/subtract and simplify completely

a. $\frac{2x}{x-3} - \frac{1}{x-3}$

b. $\frac{5}{x} + \frac{2}{3x^2}$

c. $\frac{3}{x+5} - \frac{4}{x+1}$

d. $\frac{4x}{x^2-4} - \frac{3}{x+2}$

e. $\frac{x}{x^2-x-30} - \frac{1}{x+5}$

f. $\frac{x+2}{x-1} - \frac{2}{x+6} - \frac{14}{x^2+5x-6}$

3. Simplify the complex fraction.

a. $\frac{1+\frac{1}{x}}{1-\frac{1}{x}}$

b. $\frac{\frac{1}{x}+\frac{1}{2x+1}}{\frac{4x}{2x+1}}$

4. Solve the following and check for extraneous solutions.

a. $\frac{7}{x+3} = \frac{x}{4}$

b. $\frac{2x-3}{x+3} = \frac{3x}{x+4}$

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c. $\frac{3}{x} - \frac{2}{x+1} = \frac{4}{x}$

e. $\frac{1}{x-2} + \frac{1}{x+3} = \frac{5}{x^2+x-6}$

d. $\frac{1}{x+2} + \frac{1}{x+2} = \frac{4}{x^2-4}$

5. Determine what x values make the function undefined.

a. $\frac{2x}{x^2+8x+16}$

b. $\frac{5-x}{x^2+5x-50}$