

**Bell Work**

Simplify.

1.  $\frac{x^3 - 27}{x^2 - 9}$

Perform the indicated operation.

2.  $\frac{x^3 - 9x}{x^2 + 6x + 9} \cdot \frac{x^3 + 3x^2}{x - 3}$

3.  $\frac{2x+1}{16x^2} \div \frac{2x^2+5x+2}{4x^3+4x}$

4.  $\frac{2x}{x+1} - \frac{3x}{x-1} + \frac{6}{x^2 - 1}$

Solve the following rational equations. Don't forget to check for an extraneous solution.

1.  $\frac{3}{x+1} = \frac{9}{4x+5}$

2.  $\frac{1}{2x+5} = \frac{x}{11x+8}$

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

$$4. \quad 1 - \frac{8}{x-5} = \frac{3}{x}$$

$$5. \quad \frac{6}{x-3} = \frac{8x^2}{x^2-9} - \frac{4x}{x+3}$$

$$6. \quad \frac{3}{2} + \frac{4}{x-1} = \frac{x+1}{x-1}$$

$$7. \quad \frac{3x}{x+1} - \frac{5}{2x} = \frac{3}{2x}$$