

Perform the indicated operation and simplify completely.

1.
$$\frac{3x^2}{3x+15} \cdot \frac{x+5}{x^2-x}$$

2.
$$\frac{5}{x+4} \div \frac{6}{x^2-16} \cdot \frac{12x}{x^2-3x-4}$$

3.
$$\frac{x+4}{x(x+2)} + \frac{x^2+2x-5}{x(x+2)} =$$

4.
$$\frac{x}{x^2-9} + \frac{3}{x(x-3)} =$$

5.
$$\frac{\frac{x}{3} - \frac{1}{x+2}}{\frac{x+3}{2x^2+4x}} =$$

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

7.
$$\frac{4}{x} + 1 = \frac{-5}{x-2}$$

8.
$$\frac{5}{x^2-3x} = \frac{2}{x-3}$$