

Factor the numerators and denominators. Regroup common factors in the same fraction and reduce to 1. Multiply simplified expressions.

$$\frac{x^2 - 5x + 6}{3x} \cdot \frac{9x}{x-2} = \frac{(x-2)(x-3)}{3x} \cdot \frac{3 \cdot 3x}{x-2} = \frac{x-2}{x-2} \cdot \frac{3x}{1} \cdot \frac{3}{1}$$
$$= 1 \cdot 1 \cdot (x-3) \cdot 3 = 3x - 9$$