

$$\frac{72y}{y^2 - 9} \div \frac{48y}{y^2 - 6y + 9} = \frac{72y}{y^2 - 9} \cdot \frac{y^2 - 6y + 9}{48y} = \frac{24 \cdot 3 \cdot y}{(y - 3)(y + 3)} \cdot \frac{(y - 3)(y - 3)}{24 \cdot 2 \cdot y}$$

$$= \frac{24y \cdot (y - 3)}{24y \cdot (y - 3)} \cdot \frac{3(y - 3)}{2(y + 3)} = 1 \cdot 1 \cdot \frac{3(y - 3)}{2(y + 3)} = \frac{3y - 9}{2y + 6}$$