

$$\frac{x-3}{x+3} - \frac{x+3}{3-x} + \frac{12x}{x^2-9} =$$

$$= \frac{x-3}{x+3} + \frac{x+3}{x-3} + \frac{12x}{x^2-9} =$$

$$= \frac{x^2 - 3x - 3x + 9 + x^2 + 3x + 3x + 9 + 12x}{x^2 - 9} =$$

$$= \frac{2x^2 + 12x + 18}{x^2 - 9} =$$

$$= \frac{x^2 + 6x + 9}{x^2 - 9} =$$

$$= \frac{(x+3)(\cancel{x+3})}{(x-3)(\cancel{x+3})} =$$

$$= \frac{x+3}{x-3}$$