Bestimmen Sie x aus:

$$\frac{2x + 1}{x - 1} + \frac{2x + 4}{1 - x} + \frac{2x - 9}{x^2 - 1} = \frac{4 - 8x}{1 - x^2} \qquad x \neq 1, -1$$

$$\frac{2x + 1}{x - 1} + \frac{2x + 4}{-(x - 1)} + \frac{2x - 9}{x^2 - 1} = \frac{4 - 8x}{-(x^2 - 1)}$$

$$\frac{2x + 1}{x - 1} - \frac{2x + 4}{x - 1} + \frac{2x - 9}{x^2 - 1} = - \frac{4 - 8x}{x^2 - 1}$$

$x - 1 = x - 1$

$x^2 - 1 = (x - 1)(x + 1)$

Hauptnenner $= (x - 1)(x + 1)$

$$\frac{2x + 1}{x - 1} - \frac{2x + 4}{x - 1} + \frac{2x - 9}{x^2 - 1} = - \frac{4 - 8x}{x^2 - 1} \quad | * (x - 1)(x + 1)$$

$(x + 1)(2x + 1) - (x + 1)(2x + 4) + 2x - 9 = - (4 - 8x)$

$2x^2 + 2x + x + 1 - 2x^2 - 2x - 4x - 4 + 2x - 9 = - 4 + 8x$

$- x - 12 = - 4 + 8x \quad | + x$

$- 12 = - 4 + 9x \quad | + 4$

$- 8 = 9x \quad | : 9$

$$\mathbf{x = - \frac{8}{9}}$$