

$$\frac{1}{x-3} + \frac{2}{x-4} = \frac{3}{x-1} \quad / \quad (x-3)(x-4)(x-1)$$

$$(x-4)(x-1) + 2(x-3)(x-1) = 3(x-3)(x-4)$$

$$x^2 - x - 4x + 4 + 2(x^2 - x - 3x + 3) = 3(x^2 - 4x - 3x + 12)$$

$$x^2 - 5x + 4 + 2x^2 - 8x + 6 = 3x^2 - 21x + 36$$

$$\cancel{3x^2} - 13x + 10 = \cancel{3x^2} - 21x + 36 \quad | - 3x^2$$

$$-13x + 21x = 36 - 10$$

$$8x = 26$$

$$x = \frac{26}{8} = \frac{13}{4} = 3 \frac{1}{4}$$

ZK:

$L\left(\frac{13}{4}\right)$ :

$$\begin{aligned} \frac{1}{\frac{13}{4} - 3} + \frac{2}{\frac{13}{4} - 4} &= \frac{1}{\frac{13-12}{4}} + \frac{2}{\frac{13-16}{4}} = \\ &= \frac{1}{\frac{1}{4}} + \frac{2}{-\frac{3}{4}} = 4 - \frac{4 \cdot 2}{3} = \frac{12-8}{3} = \frac{4}{3} \end{aligned}$$

$P\left(\frac{13}{4}\right)$ :

$$\frac{3}{\frac{13}{4} - 1} = \frac{3}{\frac{13-4}{4}} = \frac{3}{\frac{9}{4}} = \frac{1 \cdot 3 \cdot 4}{9 \cdot 3} = \frac{4}{3}$$