

$$\begin{aligned}\frac{7x}{x-2} + \frac{4}{x+3} &= \frac{(7x)(x+3)}{(x-2)(x+3)} + \frac{4(x-2)}{(x+3)(x-2)} \\ &= \frac{7x^2 + 21x}{(x-2)(x+3)} + \frac{4x - 8}{(x+3)(x-2)} = \frac{7x^2 + 21x + 4x - 8}{x^2 + x - 6} = \\ &= \frac{7x^2 + 25x - 8}{x^2 + x - 6}\end{aligned}$$