

$$\frac{(x-3)(x+7)}{(x+7)(x-5)} * \frac{(x-5)(5x+18)}{(x-3)(x-9)}$$

reduces to

$$\frac{(x-3)(x+7)}{(x+7)(x-5)} * \frac{(x-5)(5x+18)}{(x-3)(x-9)} = \frac{5x+18}{x-9}$$

$$\text{Simplify: } \left(\frac{8x^2 - 14x - 15}{12x^2 + 17x + 6} \right) \left(\frac{6x^2 + 25x + 14}{6x^2 - 7x - 20} \right)$$

Factor each of the quadratics (guess and check, split the middle, or

use the zeroes) to get $\frac{(2x-5)(4x+3)}{(3x+2)(4x+3)} * \frac{(3x+2)(2x+7)}{(2x-5)(3x+4)}$. This reduces

to $\frac{(2x+7)}{(3x+4)}$.