

Multiply the numerator and denominator by the LCD of all of the terms. Distribute it to all the terms. Then factor the polynomials.

$$\frac{1 + \frac{4}{x} - \frac{21}{x^2}}{1 + \frac{2}{x} - \frac{35}{x^2}} \cdot \frac{x^2}{x^2} = \frac{x^2 + 4x - 21}{x^2 + 2x - 35} = \frac{(x+7)(x-3)}{(x+7)(x-5)} = \frac{x-3}{x-5}$$