

④ $\frac{-8x+36}{x+3} + x = 5$ (PSD)

$(x+3)\left(\frac{-8x+36}{x+3}\right) + x(x+3) = 5(x+3)$

$-8x + 36 + x^2 + 3x = 5x + 15$

$x^2 - 5x + 36 = 5x + 15$

$x^2 - 5x - 5x + 36 + 15 = 0$

$x^2 - 10x + 21 = 0$ (PSD)

$(x-3)(x-7) = 0$

$x-3=0 \quad x-7=0$

$x=3 \quad x=7$

⑤ $\frac{3x}{x+5} = \frac{2x+4}{x+4} - \frac{11x+40}{x^2+9x+20}$ (PSD)

$\frac{3x}{x+5} = \frac{2x+4}{x+4} - \frac{11x+40}{(x+4)(x+5)}$

$(x+5)(x+4)\left(\frac{3x}{x+5}\right) = (x+5)(x+4)\left(\frac{2x+4}{x+4}\right) - (x+5)(x+4)\left(\frac{11x+40}{(x+4)(x+5)}\right)$

$3x(x+4) = (x+5)(2x+4) - (11x+40)$

$3x^2 + 12x = 2x^2 + 4x + 10x + 20 - 11x - 40$

$3x^2 + 12x = 2x^2 + 3x - 20$

$3x^2 - 2x^2 + 12x - 3x + 20 = 0$

$x^2 + 9x + 20 = 0$ (PSD)

$(x+4)(x+5) = 0$

$x+4=0 \quad x+5=0$

~~$x=-4 \quad x=-5$~~

No Sol.

⑥ $\frac{3}{x+6} + \frac{20x-57}{x^2+x-30} = \frac{x}{x-5}$ (PSD)

$\frac{3}{x+6} + \frac{20x-57}{(x+6)(x-5)} = \frac{x}{x-5}$

$(x+6)(x-5)\left(\frac{3}{x+6}\right) + (x+6)(x-5)\left(\frac{20x-57}{(x+6)(x-5)}\right) = (x+6)(x-5)\left(\frac{x}{x-5}\right)$

$3(x-5) + 20x - 57 = x(x+6)$

$3x - 15 + 20x - 57 = x^2 + 6x$

$23x - 72 = x^2 + 6x$

$0 = x^2 + 6x - 23x + 72$

$0 = x^2 - 17x + 72$

$0 = (x-9)(x-8)$

$x-9=0 \quad x-8=0$

$x=9 \quad x=8$