

Solve.

$$(1) \quad \frac{1}{x-3} - \frac{5}{2x+2} = \frac{4}{x^2-2x-3}$$

$$(2) \quad \frac{1}{x-2} + \frac{5}{x^2-1} = \frac{5}{x^2-3x+2}$$

$$(3) \quad \frac{10}{x^2+12x+35} - \frac{5}{x^2+11x+28} = \frac{1}{x^2+9x+20}$$