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(1) Simplify $\frac{x^2-25}{2x+10} \times \frac{4x^2-1}{2x^2-11x+5}$

(2) Simplify $\frac{x^2-x-42}{x^3-x} \div \frac{3x^2+17x-6}{2x+2}$

(3) Simplify $\frac{1-x^2}{x-1} \times \frac{15x^2+13x+2}{5x^2+6x+1}$

(4) Simplify $\frac{2}{x+2} + \frac{3}{x-1}$

(5) Simplify $\frac{1}{x-3} + \frac{5}{2x-1}$

(6) Simplify $\frac{5}{x-3} - \frac{4}{x+6}$

(7) Solve $\frac{1}{x+1} + \frac{1}{x+2} = \frac{11}{30}$

(8) Solve $\frac{4}{2x-1} - \frac{3}{x} = \frac{-1}{5}$

(9) Simplify $\left(\frac{25x^2-36}{x^3+x^2} \times \frac{x^3-x^2}{5x^2+x-6}\right) \div \frac{5x-6}{x}$

(10) Show that the roots of the equation $\frac{3}{2x} + \frac{1}{28} = \frac{2}{1+x}$ are integers.

(11) Show that $\frac{1}{x} + \frac{2}{x^2} + \frac{1}{x^3}$ can be written as $\frac{(x+A)^B}{x^C}$

(12) Without a calculator, show that

$$\frac{2\sin(30)}{x+\tan(45)} + \frac{\sin 90}{x-2\cos(60)} \equiv \frac{2x}{x^2-1}$$