Unit 12.1 Solving Rational Equations

1. State any restrictions on x, then solve the rational equations for x

    a. $\dfrac{4x}{7} = \dfrac{x+5}{3}$

    b. $\dfrac{4}{x-4} = \dfrac{2}{x+3}$

    c. $\dfrac{5x+2}{x-6} = \dfrac{11}{4}$

    d. $\dfrac{2}{x^2-9} = \dfrac{1}{x^2} + \dfrac{1}{x^2-3x}$

e. $\dfrac{5x}{4} - \dfrac{1}{2} = -\dfrac{3}{16}$

f. $\dfrac{x-2}{3} - \dfrac{x-3}{5} = \dfrac{13}{15}$

g. $\dfrac{2}{4x-1} + \dfrac{1}{x+1} = \dfrac{3}{x+1}$

h. $\dfrac{3x + 5}{3x + 2} + \dfrac{8x + 16}{3x^2 - 4x - 4} = \dfrac{x + 2}{x - 2}$

i. $\dfrac{x - 2}{x - 3} + \dfrac{x - 3}{x - 2} = \dfrac{2x^2}{x^2 - 5x + 6}$

j. $\dfrac{3}{3x - 1} + \dfrac{1}{x + 1} = \dfrac{4}{2x - 1}$