W5 – 3.4 Solve Rational Equations and Inequalities
MHF4U

1) Solve each equation algebraically.

a) $\frac{6}{2x-1} = 5$

b) $\frac{6}{x} = x - 5$

c) $1 = \frac{5}{3x^2-8x+2}$

d) $\frac{x+5}{x-1} = \frac{x+1}{x-3}$

e) $\frac{3}{x+5} + \frac{4}{x} = 0$

f) $2x = 5 - \frac{3}{x}$

g) $\frac{2}{1-x} + \frac{3}{x+1} = \frac{1}{x}$

h) $\frac{3}{x-1} + 5 + \frac{2}{x} = 0$

2) Solve each inequality without using technology.

a) $\frac{4}{2x-3} < \frac{1}{x+4}$

b) $\frac{2x+3}{x-3} \geq \frac{6x-5}{3x+1}$

c) $\frac{(x-3)(2x-1)}{(x+4)(x-5)} > 0$

d) $\frac{2x^2+5x-3}{x^2+5x+4} \leq 0$

e) $\frac{4}{x-3} < 1$

f) $\frac{2x^2+5x-3}{x^2+8x+16} < 0$

g) $\frac{x}{x+3} > \frac{x}{x-1}$

h) $\frac{2x+3}{x} > \frac{x+1}{x}$