Single Pure – Reciprocal Sketching

When sketching curves, remember to find where it crosses the x-axis and the y-axis. Think about what happens to y when x is *very* positive and *very* negative. You cannot divide by zero, so any values of x where this happens will result in a vertical asymptote.

Questions

1. Sketch the following curves:

   (a) $y = \dfrac{1}{x-4}$.

   (b) $y = \dfrac{2}{3-x}$.

   (c) $y = \dfrac{3+5x}{4x-1}$.

   (d) $y = \dfrac{1}{x+1} + 2$.

   (e) $y = \dfrac{2}{x+3} - 3$.

   (f) $y = \dfrac{x+1}{x-4}$.

   (g) $y = \dfrac{2-x}{x-1} + 1$.

   (h) $y = \dfrac{3x-1}{5x+2}$.

   (i) $y = \dfrac{x+4}{3x-5}$.

   (j) $y = \dfrac{-4x-11}{3x-2}$.

   (k) $y = \dfrac{1}{(x+2)(x-3)}$.

   (l) $y = \dfrac{1}{(x-4)(x+1)} - 5$.

   (m) $y = \dfrac{-2}{x^2+2x-15}$.