

D Michaelmas 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:

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

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

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

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

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

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

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

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

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

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

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

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

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