

**YOU & MATHS** **Is it a line?** Solve for  $y$  in the following equation and let  $y = f(x)$ . Draw a graph of the function  $f$ .

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

If you suppose  $y \neq 2$  and  $x \neq 0$  you can transform the equation into  $yx - 3x = xy + y - 2x - 2$  which simplified is  $-3x + 2x = y - 2$ . Now you can solve for  $y$  and get  $y = -x + 2$ . Therefore the graph is a line with the point  $(0, 2)$  missing.

