

## Quiz 7

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. pg.125#5h (5 marks) Find  $f^{-1}(x)$  for  $f(x) = \frac{x-1}{x+1}$

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

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

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

$$x(y+1) = y-1$$

$$xy + x = y - 1$$

$$xy - y = -x - 1$$

$$y(x-1) = -x - 1$$

$$y = \frac{-x-1}{x-1}$$

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

$$f^{-1}(x) = \frac{x+1}{1-x}$$

Question 2. pg.133#71 (5 marks) Sketch the graph  $f(x) = \log_2(x-1)$

$x$	$\log_2 x$
$\frac{1}{2}$	$\log_2(\frac{1}{2}) = -1$
1	$\log_2 1 = 0$
2	$\log_2 2 = 1$

