

## Quiz 2

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.** (3 marks) Simplify the complex fraction:

$$\frac{1 - 25x^{-2}}{1 + 10x^{-1} + 25x^{-2}}$$

**Question 2.** (3 marks) Solve for x:

$$\frac{x}{x-1} - \frac{12}{x^2-x} + \frac{1}{x-1} = 0$$

**Question 3.** (4 marks) Sketch the graph of the function. Find the domain and range of the function.

$$f(x) = \begin{cases} 4-x & \text{for } x < 2 \\ 2x-2 & \text{for } x \geq 2 \end{cases}$$