

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_

## Quiz 1

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.3#25 (5 marks) Simplify, expressing the answers with positive exponents only:

$$\begin{aligned} \frac{(2xy^{-3})^{-2}}{(3x^{-2}y^4)^{-3}} &= \frac{2^{-2}x^{-2}y^6}{3^{-3}x^6y^{-12}} \\ &= \frac{3^3y^6y^{12}}{2^2x^6x^2} \\ &= \frac{27y^{18}}{4x^8} \end{aligned}$$

Question 2. pg.9#7i (5 marks) Simplify:

$$\begin{aligned} &(x-1)^3 - (x+1)^2 + 4(x+1)(x-1) \\ &= (x-1)(x-1)(x-1) - (x+1)(x+1) + 4(x+1)(x-1) \\ &= (x-1)[x^2 - 2x + 1] - [x^2 + 2x + 1] + 4[x^2 - 1] \\ &= x^3 - 2x^2 + x - x^2 + 2x - 1 - x^2 - 2x - 1 + 4x^2 - 4 \\ &= x^3 + x - 6 \end{aligned}$$