Instructions
- Answer ALL questions. Write your answers in the spaces provided.
- Show your working. You may use a non-programmable scientific calculator.

(a) Find $\frac{dy}{dx}$ for each of the following:
- (i) $y = 6$
- (ii) $y = 5x$
- (iii) $y = -3x^4$
- (iv) $y = \frac{5}{x}$
- (v) $y = -\frac{2}{3x^3}$

(b) Differentiate each of the following functions:
- (i) $y = -8x^4 - 3x + 5$
- (ii) $y = \frac{1}{x^3} + 4x^2 - 3x - 1$
- (iii) $y = 5 - 2x + 3x^2 - \frac{1}{x}$

(c) Determine the differentiation for the following functions.
- (i) $y = x(2x)$
- (ii) $y = x(3x + 2)$
- (iii) $y = -x(2 - x)$
- (iv) $y = \frac{3x^2 + 2x - 1}{x^2}$
- (v) $y = \frac{x(x-2)}{3}$