

 <p>KEMENTERIAN PENDIDIKAN TINGGI</p> <p>POLITEKNIK MALAYSIA KUCHING SARAWAK</p> <p>JABATAN MATEMATIK, SAINS DAN KOMPUTER</p>		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS	
		COURSEWORK ASSESSMENT		GROUP DISCUSSION 1B	
		SESSION		DECEMBER 2017	
NAME		DURATION	60 MINS	CLO1	
REGISTRATION NO.				CLO2	
PROGRAMME/ SECTION	IPP1			CLO3	10 MARKS
		TOTAL MARKS			10 MARKS

Instructions

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

Question 1 [CLO3, C1]

Find the derivatives of the following functions. Simplify your answers.

(a) $y = -10x^3 - 5x^{-2} + 2$

(b) $y = \frac{1}{2}x^{-2} - \frac{2}{x}$

(c) $y = -5x^{-\frac{1}{15}}$

(d) $y = \sqrt[3]{x}$

(e) $y = \frac{2}{\sqrt{x}}$

[5 marks]

Question 2 [CLO3, C2]

Differentiate the following with respect to x .

(a) $y = x^{\frac{1}{10}} - x^{-\frac{1}{5}}$

(b) $y = x^{12} + x^7 + \frac{1}{2}x^4$

(c) $y = x^3 - \frac{1}{6}x^6 + \frac{6}{4}x^8$

(d) $y = 3x - \sqrt{x} + 2$

[4 marks]

Question 3 [CLO3, C3]

Determine the differentiation for the following function:

$$y = \frac{6x^3 + 4x^2 - 2x - 2}{2x^2}$$

[1 mark]