

 KEMENTERI/ PENDIDIKAN MALAYSIA  JABATAN MATEMATIK, SAINS DAN KOMPUTER		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS	
		COURSEWORK ASSESSMENT		GROUP DISCUSSION	
		SESSION		DECEMBER 2018	
		DURATION	60 MINS	CLO1	
CLO2					
CLO3	10 MARKS				
NAME					
REGISTRATION NO.					
PROGRAMME/ SECTION	IPP1	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

Differentiate the following functions.

CL01, C1 [2 marks]

(a) $y = -21x$.

$$\frac{dy}{dx} = -21$$

CL01, C2 [2 marks]

(b) $y = -21x^{-2}$.

$$\frac{dy}{dx} = -21(-2)x^{-2-1} = 42x^{-3} = \frac{42}{x^3}$$

CL01, C2 [2 marks]

(c) $y = 6x^{-5} + \frac{2}{3}x^3$.

$$\frac{dy}{dx} = -30x^{-6} + 2x^2 = -\frac{30}{x^6} + 2x^2$$

CL01, C3 [2 marks]

(d) $y = 2x^2(4x^3 - 7)$

$$y = 8x^6 - 14x^2$$

$$\frac{dy}{dx} = 48x^5 - 28x$$

CL01, C3 [2 marks]

(e) $y = \frac{8x^3 - 4x}{2x}$

$$y = 4x - 2$$

$$\frac{dy}{dx} = 4$$