

Olivia Pamela (051PP18F2008)

 KEMENTERIA PENDIDIKAN MALAYSIA		 POLITEKNIK MALAYSIA		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS			
				COURSEWORK ASSESSMENT		GROUP DISCUSSION			
		JABATAN MATEMATIK, SAINS DAN KOMPUTER		SESSION		DECEMBER 2018			
				DURATION	60 MINS	CLO1			
						CLO2			
						CLO3	10 MARKS		
NAME	Olivia Pamela			TOTAL MARKS		10 MARKS			
REGISTRATION NO.	051PP18F2008								
PROGRAMME/ SECTION	IPPI								

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.

CLO1, C1 [2 marks]

(a) $y = -21x$.

CLO1, C2 [2 marks]

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

CLO1, C2 [2 marks]

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

CLO1, C3 [2 marks]

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

CLO1, C3 [2 marks]

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

Question 1

a) $y = -21x$

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

$$= -21$$

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

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

$$= 42x^{-3}$$

$$= \frac{42}{x^3}$$

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

$$\frac{dy}{dx} = 6(-5)x^{-5-1} + \frac{2}{3}(3)x^{3-1}$$

$$= -30x^{-6} + 2x^2$$

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

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

$$y = 8x^5 - 14x^2$$

$$\frac{dy}{dx} = 8(5)x^{5-1} - 14(2)x^{2-1}$$

$$= 40x^4 - 28x$$

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

$$= \frac{8x^3}{2x} - \frac{4x}{2x}$$

$$= 4x^{3-1} - 2x^{1-1}$$

$$= 4x^2 - 2$$

$$\frac{dy}{dx} = 4(2)x^{2-1}$$

$$= 8x$$

Celybia Chu (051pp18f2028)

Celybia Chu (051pp18f2028)		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS			
 KEMENTERIA PENDIDIKAN MALAYSIA		 POLITEKNIK MALAYSIA		COURSEWORK ASSESSMENT		GROUP DISCUSSION	
				SESSION		DECEMBER 2018	
				DURATION	60 MINS	CLO1	
						CLO2	
JABATAN MATEMATIK, SAINS DAN KOMPUTER				CLO3	10 MARKS		
NAME	Roslind Jelwile at Kasar			TOTAL MARKS		10 MARKS	
REGISTRATION NO.	051PP18F2011						
PROGRAMME/ SECTION	IPP1						

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[2 marks]

CLO1, C2

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[2 marks]

CLO1, C2

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

[2 marks]

CLO1, C3

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

[2 marks]

CLO1, C3

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

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$$\frac{dy}{dx} = 8(5)x^{5-1} - 14(2)x^{2-1}$$

$$= 40x^4 - 28x$$

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

$$= \frac{4x^3}{1x} - \frac{4x}{1x}$$

$$= 4x^{3-1} - 2x^{1-1}$$

$$= 4x^2 - 2$$

$$\frac{dy}{dx} = 4(2)x^{2-1}$$

$$= 8x$$

Dayang Hiyana Syazwani binti Abg. Zulkhi (051PP18F2021)
Jasmin binti Wahab (051PP18F2015)

 KEMENTERIA PENDIDIKAN MALAYSIA  POLITEKNIK MALAYSIA JABATAN MATEMATIK, SAINS DAN KOMPUTER		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS	
		COURSEWORK ASSESSMENT		GROUP DISCUSSION	
		SESSION		DECEMBER 2018	
		DURATION	60 MINS	CLO1	94 2 10 MARKS
NAME	1			CLO2	
REGISTRATION NO.				CLO3	
PROGRAMME/ SECTION	IPP1	TOTAL MARKS		10 MARKS	

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

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CLO1, C3

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✓
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(1 1/2)

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✓
(2)

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

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

$$= 4x^{3-1} - 2x^{1-1}$$

$$= 4x^2 - 2$$

$$\frac{dy}{dx} = 4(2)x^{2-1} - 2$$

$$= 8x$$

✓
(2)

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				COURSEWORK ASSESSMENT		GROUP DISCUSSION			
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				DURATION	60 MINS	CLO1	10 MARKS		
JABATAN MATEMATIK, SAINS DAN KOMPUTER						CLO2			
						CLO3			
NAME	Jessica anak Linggang			TOTAL MARKS		10 MARKS			
REGISTRATION NO.	051PP18F2007								
PROGRAMME/ SECTION	IPP1								

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$$= 40x^4 - 28x^1$$

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

$$= \frac{8x^3}{2x} - \frac{4x}{2x}$$

$$= 4x^{3-1} - 2$$

$$= 4x^2 - 2$$

$$\frac{dy}{dx} = 4(2)^{2-1} - 2$$

$$= 8 - 2$$

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① Nur Iyazi (051PP18F2018)

② Siti Mirzafiqah (0051PP18F2014)

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		COURSEWORK ASSESSMENT		GROUP DISCUSSION			
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CLO2							
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CLO1, C3 [2 marks]

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

Q1
(a) $y = -21x$

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

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