



Chapter1 حلول تمارين الواجب.pdf

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Section	Question no.	Solution	
1.2	11	0	
	13	0	
	14	$\frac{1}{2}$	
	17	$\frac{1}{6}$	
	20	4 انتبهوا هنا طلب النهاية عند -2، عشان كده لها قيمة أما اذا طلبها عند 2 فالإجابة حتكون DNE	
	22	DNE	
	23	∞	
	30	3	
	61	-2	
	63	π^2	
	74	$\sqrt{5}$	
	75	2	
	1.3	1	$\frac{1}{2}$
		3	$-\frac{3}{5}$
4		-1	
5		0	
8		$\frac{2}{\sqrt{3}}$	
11		DNE	
14		$-\infty$	
23		$-\infty$	
29		-2 Example 5 نفس طريقة	
35		1	
37		1	
43	-1		
1.4	1	At $x = -2, g(x)$ is continuous (since it is a left endpoint) At $x = -1, g(x)$ is discontinuous	

		At $x = 0, g(x)$ is left continuous At $x = 1, g(x)$ is right continuous At $x = 2, g(x)$ is discontinuous
	13	$f(x) = x + 2$
	17	$k = 8$

Chapter 2 حلول تمارين الواجب.pdf

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حلول تمارين الواجب

MATH 101

Chapter 2

Section	Question no.	Solution
2.1	1	$y = 3x - 1$
	3	$y = 8x - 13$
2.2	11	(a) $y' = 2x - 3$ (b) $\frac{dy}{dx} = 2x - 3$
	31	$y = \frac{1}{6}(x - 3) + 3$
	35	$g'(t) = 22t^{21}$, for all $t \in \mathbb{R}$
	37	$y' = -\frac{1}{3}x^{-\frac{4}{3}}$, $x \in \mathbb{R} - \{0\}$
	41	$F'(x) = -x^{-2}$ $F'\left(\frac{1}{4}\right) = -16$
	43	$\frac{dy}{dt} = \frac{1}{4}t^{-\frac{3}{4}}$ $\left.\frac{dy}{dt}\right _{t=4} = \frac{1}{8\sqrt{2}}$
2.3	1	$y' = 6x - 5$
	5	$z' = \frac{s^4}{3} - \frac{s^2}{5}$
	10	$F'(x) = 13 - 30x$
	13	$y' = -\frac{(2x+5)}{(x^2+5x)^2}$
	15	$f'(t) = \frac{\pi^2}{(2-\pi t)^2}$
	19	$y' = -\frac{1}{\sqrt{t^3}} + \frac{1}{2\sqrt{t}} + \frac{3}{2}\sqrt{t}$
	21	$f'(x) = -\frac{24}{(3+4x)^2}$
	28	$f'(r) = -12r^2 - 8r + 1 - \frac{1}{r^2} - 2 \cdot \frac{1}{r^3} - 3 \cdot \frac{1}{r^4}$
42	The tangent equation: $y = -2x + 7$ The normal equation: $y = \frac{1}{2}x + 2$	
	1	$y' = 12(2x+3)^5$



2.4	4	$y' = -\frac{3x}{\sqrt{1-3x^2}}$
	7	$y' = \frac{12}{(5-4x)^2}$
	8	$y' = \frac{6t}{(1-2t^2)^{5/2}}$
2.5	3	$y' = -3 \sin 3x$
	5	$y' = \pi \sec^2(\pi x)$
	7	$y' = 3 \csc^2(4-3x)$
	11	$y' = 2\pi x \cos(\pi x^2)$
	13	$y' = -\frac{\sin x}{2\sqrt{1+\cos x}}$
	15	$y' = -(1+\cos x) \sin(x+\sin x)$
	29	$y' = \frac{1}{1+\cos x}$
31	$y' = 2x \cos(3x) - 3x^2 \sin(3x)$	
2.6	1	$y' = -14(3-2x)^6$ $y'' = 168(3-2x)^5$ $y''' = -1680(3-2x)^4$
	9	$y' = \sec^2 x$ $y'' = 2 \sec^2 x \tan x$ $y''' = 4 \sec^2 x \tan^2 x + 2 \sec^4 x$
2.8	8	نفس حل Example 4 في المحاضرة
	9	$f(x)$ is increasing at $(0, \infty)$ $f(x)$ is decreasing at $(-\infty, 0)$
	11	$f(x)$ is increasing at $(-\infty, -4) \cup (0, \infty)$ $f(x)$ is decreasing at $(-4, 0)$
2.9	1	$\frac{dy}{dx} = \frac{1-y}{x+2}$

مع دعواتي لكن بالتوفيق

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