Edexcel

A Level

A Level Maths

Edexcel Core Maths C3 January 2012 Model Solutions

Name:



Mathsmadeeasy.co.uk

Total Marks:

	Edexcel Jan 12 - C3
$\int_{a}^{a} dx = \int_{a}^{2} \ln(3x)$	
	$= 2x \ln(3x) + \infty$
16. d sin lex	$f: sinhx$ $g: x^3$ $f': hcoshx$ $g': 3x^2$
$= \mu x^3 \cosh x - 3x^2 $ x^6	sinlex
* hxxoshx - 35	inlux_
2a,	
(-5,0)	
	(0,-12)
26.	
	(2.4)
(-3,0)	V

<u>3a</u>	A = 20e 1.5t	t 7, 0
	when t=0	A : 20
,		
36	40 = 20e 1.5t	
	e 1.56 = 2	
	t: ln2	= 0.4621 hrs
	1.2	* 28 mins
4.	x = 2ton (y+	<u>u</u>
	y: 1 ; x:	2ton (1 + 1) = 253
	~ ц	(- 12)
	1 = 2 sec 2 (y	+ 17 dy
		12/dx
	$\frac{dg}{dx} = \frac{1}{2} \cos^3 \frac{1}{2}$	(9+17)
	dx ~	(12)
4:	T ; dy : 1	=> m of normal -8
	4 dx	
		y-17 = -8(x-2,13)

5. 2 cot 2(3	so) = 7 ros	sec (30) - 5
use:	cot (30) =	= cosec²(30) -1
2 005002	(30) - 7co	30c(30) + 3 = 0
(2.	:osec (30) - 1)	(cosec(30) - 3) = 0
sin(30) =	2 X	sin(30) = 1/3
0 \ 30	< 540°	30 = 19-471
S	A	
		30 = 19.471, 160.529
		379.471, 520.529
T	<u> </u>	0: 6.5°, 53.5°, 126.5°, 173.5°
		,

60	$f(x) = x^2 - 3x + 2\cos(x/2)$
0a	$f(x) = x - 3x + 4\cos(-x)$
	f(0.8) = 0.08212
	f(0.9) = -0.0891, trange of sign, => x E (0)
 	0.9
6b.	f(x), 2x-3-sin(x/2)
	$2x = 3 + \sin(x/2)$
	x : 3+ 5.0 (×/2)
	a
7.	
6c.	$x_{n+1} : 3 + \sin(1/2x_n) \qquad x_0 : 2$
	2 x, ; 1.921
	x2: 1.910
	X3: 1.908
64.	to round to L dp. x & [1.90775, 1.90785)
	F'(1.90775) 0.0001634
	f'(1.90785): 0.00000766
-	change of sign => 1.90775 < x < 1.90785
	=> to 4 dp. x = 1.9078
 	
-	
+	
-	

Fa F: x → 3(x+1)	XER	x> 1/2
2x2+7x-4 x+4		
E(x) = 3(x+1) - (5x-1)	, <u>x+4</u>	
(2xa1)(x+h)	(2x=1)(x+4)	2×-1
76. let 4. 1.		handed a control from the control of
76. Let 9		***************************************
2×y - y : 1		
x : 1+4		
² y		
E.,(x) = 1+x		
2×		
7		
7e, x>0		
7d $q(x) = l_{1}(x+1)$		
F(ln(x+1)) = 1		
7		
2ln(x+1)-1 7		
7 : 2en(x+1)-1		
8 · 2en(x+1)		and the confidence of the second part of the second
$x+1 = e^{+}$		
x = e" - 1	a Principalis and parties of the configuration and parties and configuration of the configura	
		and walking of the rest, ment are place affice all a collection and an extension of the second and the second a
		Marie Alle Control (and the Court of Late Country), and the country and the Control (and the country) and the country and the
The state of the s		The second secon

8a.	sin AcooB + cos Asin B = cos A coo B
	cosAcosB = snAsinB
	= tan A + tan B
	1 - tan A tan B
8r.	$\tan(0 + \pi/6) = \tan 0 + \tan(\pi/6)$
06.	1 - tan @ tan (11/6)
	= bo0+ 1/53 = 13 tan 0 +1
	1-tano. ta 1/53 \square 13-tano
80.	1+ \(\sqrt{3} \tan \omega = (\sqrt{3} - \tan \omega) \tan (\pi - \omega)
	tan (0+116) (53-Fano) = (55-Fano) fan (17-0)
	$tan (0 + \pi/6) = tan (\pi - 0)$
	0+7/6 = 77 - 0 0 50 5 17
	20 = 5 5/6 0 5 20 5 21
	, 5
	20 = 51/6 "11/6
	0 = 5 m/12 11 m/12 T