LL SAINTS' COLLEGE	MATHEMATICS DEPARTMENT Year 11 Methods - Test Number 1b Functions and Graphs Resource Free
Name: Marks:	Teacher:
ime Allowed:	30 minutes
	ARE NOT allowed any notes or calculators. will be supplied with a formula sheet.
1 Determine t	the equation of the line of symmetry, the turning point and <u>all</u> intercepts of a given by the equation $y = (2 - x)(2x + 8)$.

[5 Marks]

All Saints' College Mathematics This study source was downloaded by 10000846012161 from Courses ero.com of 65:12-2022 04:39:36 GMT -05:00

2. Given that $f(x) = x^2 - ax + 5$, find the value of *a* if the turning point is (3, -4).

[2 Marks]

3. The lines y = 3 - x and y = 3x - 5 intersect at the point B. Find the equation of the line that is perpendicular to 4y + x = 12 and that passes through point B.

[5 Marks]

.....

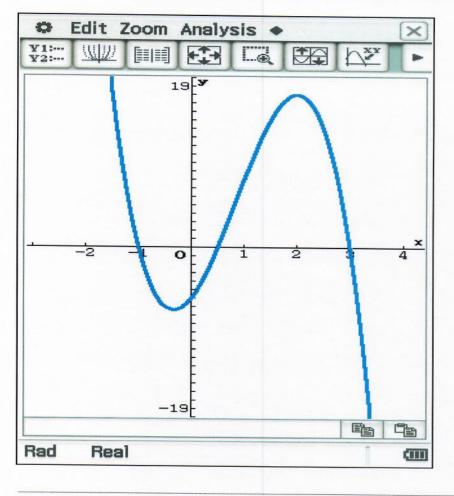
4. Find the equation of the parabola in the form $y = ax^2 + bx + c$, that passes through the points (1,-12), (0,-12) and (4,12)

[6 Marks]

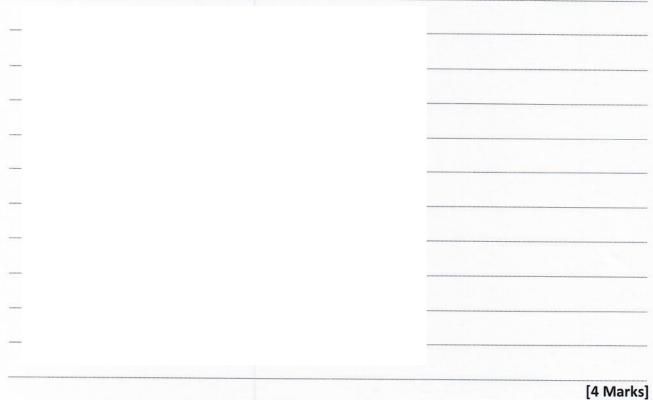
This study source was downeded by 10000846692161 from Course are Number 12-2022 04:39:36 GMT -05:00

March 2021

https://www.coursehero.com/file/163552765/2021-Year-11-Methods-Test-1b-SOLUTIONSpdf/



5. Determine the equation of the cubic function shown below:



6. Choose from the list of functions and relations below:

Α	В	С	D
$x^2 + y^2 = 100$	$y = x(x+2)^2$	$y = \sqrt{(3x - 1)} + 1$	$y = \frac{3}{x+4}$
E	F	G	Н
xy = 1	$y^2 = 13x$	$\frac{2}{x-1} = 3 - y$	y = x(x-9)

and write down only the letter(s) of all those:

- a) which are NOT functions,
- b) which represent circles or cubics,
- c) whose graphs have domains that exist for all real values,

d) whose graphs have asymptotes.

[8 Marks]

End of Test

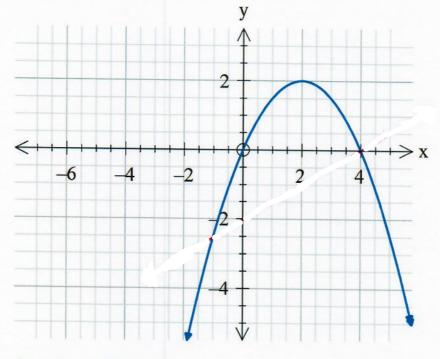
This study source the source of the source o

ALL SAINTS' COLLEGE	MATHEMATICS DEPARTMENT Year 11 Methods - Test Number 1b Functions and Graphs Resource Rich	
Name:		Teacher:
Marks:	20	
Time Allowed:	15 minutes	
Instructions: You	ARE allowed yo	ur calculator(s) but NO NOTES.

You will be supplied with a formula sheet.

1. [2, 2, 2, 2 = 8 marks]

The function y = f(x) is shown below:



(a) State the equation of f(x)

(b) State the domain and range of f(x)

Another function is given by g(x) = 0.5x - 2

(c) Sketch y=g(x) on the axes above.

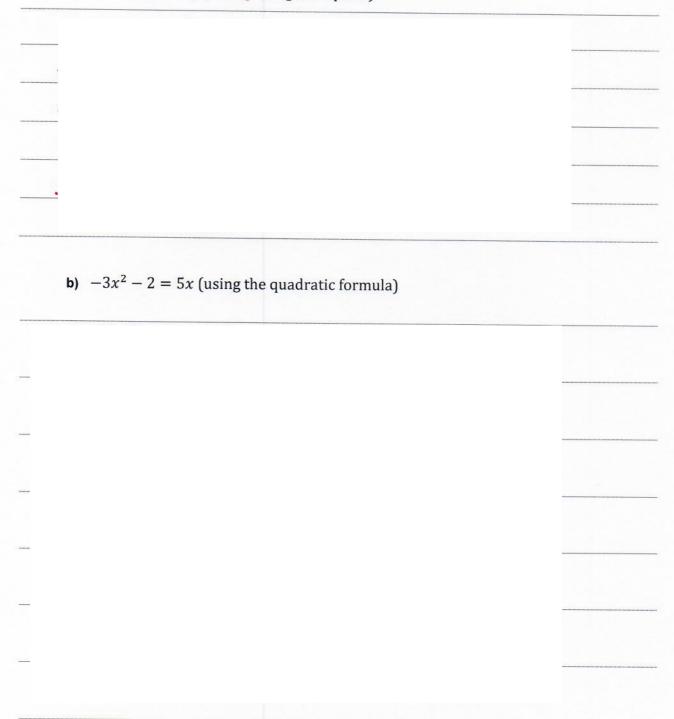
(d) For what values of x does f(x) = g(x)?

This studils Reinta's Gallage Mathematics 2161 from CouRage Number 9:12-2022 04:39:36 GMT -05:00

2. [4, 4 = 8 marks]

Solve the following equations using the method shown, simplifying your answers where appropriate.

a) $x^2 - 7x = -3$ (by completing the square)



This stuck lo Saints' College Mathematics 2161 from Course Hernor 9-13-2022 04:39:36 GMT -05:00

3. [4 marks]

Use the discriminant to show that the line 2x - y + 3 = 0 intersects the circle $x^2 + y^2 = 36$ at two points.

End of Test

https://www.coursehero.com/file/163552765/2021-Year-11-Methods-Test-1b-SOLUTIONSpdf/