

GCSE MATHEMATICS AQA | Edexcel | OCR | WJEC

Functions – The Basics

Please write clearly in block capitals

Forename:	
Surname:	

Materials

For this paper you must have:

mathematical instruments



You can use a calculator.

Instructions

- · Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- · Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- · The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper.
 These must be tagged securely to this answer book.

Advice

In all calculations, show clearly how you work out your answer.

1	Work out the value of each function.	
1(a)	If $f(x) = x - 10$, find $f(20)$	
		[1 mark]
	Answer	
1(b)	If $g(x) = -\frac{x}{4}$, find $g(-40)$	
1(5)	$\lim_{y \to \infty} g(x) = -\frac{1}{4}, \lim_{y \to \infty} g(-40)$	Id manual
		[1 mark]
	Answer	
1(c)	If $f(x) = \frac{-x^2 + 10}{5}$, find $f(5)$	
` '	$\frac{1}{5}\left(\frac{1}{5}\right) = \frac{1}{5}$	[4 mould
		[1 mark]
	Answer	
1(d)	If $h(x) = -5(x - 2)^2$, find $h(12)$	
		[1 mark]
	Answer	
	Allower	
1(e)	x - 3 $x + 3$ $x + 3$	
1(e)	If $g(x) = \frac{x-3}{4}$, find $g(83)$	
		[1 mark]
	Answer	
	Turn over for next question	
	. a or o. none quodion	

Turn over ▶

A function is given by f(x) = 3x + 3

Complete the table below:

[2 marks]

Input	Answer
f(2)	9
f(3)	
f(-3)	
	3
f(a)	

Considering the function $f(x) = 2x^2 - 1$ Complete the table below:

[2 marks]

Input	Output
f(-1)	
f(4)	
f(2)	
f(-b)	
f(1)	



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4	Given that $f(x) =$	$(\gamma -$	$5)^2$	find:

4(a)	f(3)

[1 mark]

4(b) f(0)

[1 mark]

Answer

4(c) Solve
$$f(x) = 0$$

[2 marks]

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		5	
5	Work out the value of	each function.	
5(a)	f(x) = x - 10		
	Solve $f(x) = 0$		
			[1 mark]
			-
		<i>x</i> =	
E(b)	γ		
5(b)	$g(x) = -\frac{x}{4}$		
	Solve $g(x) = 0.25$		
			[1 mark]
			-
			_
		x =	
	_		
5(c)	$f\left(x\right) = \frac{x^2 + 11}{5}$		
	Solve $f(x) = 12$		
	$\mathbf{OOIVC} f(x) = 12$		[2 marks]
			[Z IIIai KS]
			_
			-
		<i>x</i> =	
5(d)	$h(x) = -5(x-2)^2$		
	Solve $h(x) = -5$		
			[2 marks]
			-
			-
		x =	

End of Questions

END

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