

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

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CANDIDATE NAME				
CENTRE NUMBER		CANDIDATE NUMBER		
CAMBRIDGE I	NTERNATIONAL MATHEMATICS	0607/02		
Paper 2 (Extend	ded)	For Examination from 2010		
SPECIMEN PA	.PER			
		45 minutes		
Candidates ans	swer on the Question Paper			
Additional Mate	erials: Geometrical Instruments			
READ THESE	INSTRUCTIONS FIRST			
Write your Cent	tre number, candidate number and name on	all the work you hand in.		

Answer **all** the questions.

Write in dark blue or black pen.

CALCULATORS MUST NOT BE USED IN THIS PAPER.

Do not use staples, paper clips, highlighters, glue or correction fluid.

All answers should be given in their simplest form.

You may use a pencil for any diagrams or graphs.

You must show all relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.

The number of marks is given in brackets [] at the end of each question or part question.

The total of the marks for this paper is 40.

For Examiner's Use

This document consists of 7 printed pages and 1 blank page.



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Formula List

For the equation

$$ax^2 + bx + c = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Curved surface area, A, of cylinder of radius r, height h.

 $A = 2\pi rh$

Curved surface area, A, of cone of radius r, sloping edge l.

 $A=\pi rl$

Curved surface area, A, of sphere of radius r.

 $A=4\pi r^2$

Volume, V, of cylinder of radius r, height h.

 $V = \pi r^2 h$

Volume, V, of pyramid, base area A, height h.

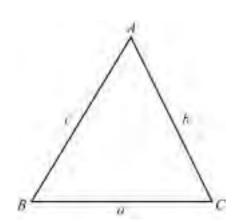
 $V = \frac{1}{3}Ah$

Volume, V, of cone of radius r, height h.

 $V = \frac{1}{3} \pi r^2 h$

Volume, V, of sphere of radius r.

$$V = \frac{4}{3}\pi r^3$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

Area =
$$\frac{1}{2}bc \sin A$$

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Answer all the questions.

- 1 Write down the value of
 - (a) 7^{-2} ,

Answer(a) [1

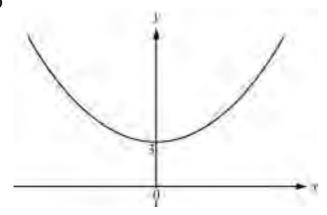
(b) $64^{\frac{1}{3}}$.

Answer(b) [1]

2 The graphs shown are translations of the graph of $y = x^2$.

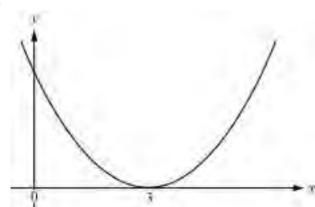
Write down their equations.

(a)



Answer(a) y = [1]

(b)



Answer(b) y = [1]

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3 Solve $2 \sin x^{\circ} = 1$ for $0 \le x \le 360$.

4			
Answer x =	 or $x =$	 [2]	

4 Solve the simultaneous equations.

$$3x + 2y = 7$$
$$5x + 3y = 12$$

Answer
$$x =$$

$$y =$$
 [4]

5 Solve the equation $2x^2 + 11 = x + 21$.

Answer
$$x =$$
 or $x =$ [4]

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(a) Write down the value of $\log_2 8$.

Answer(a)	 [1]
	 F-1

(b) Simplify as far as possible $\log 12 + \log 3 - 2 \log 6$.

Answorth)	[3]
Answer(b)	 [၁]

Simplify

(a)
$$\sqrt{12}$$
,

(b)
$$\sqrt{12} + \sqrt{48}$$
,

$$Answer(b)$$
 [2]

(c)
$$\frac{\sqrt{48}}{\sqrt{12}}$$
.

$$Answer(c) \qquad [1]$$

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1	2	4	5	6	8	9	9	10	12

(a) the mean,

find

Answer(a)	[2]
Answer (u)	141

(b) the mode,

(c) the median,

(d) the lower quartile.

$$Answer(d) \qquad [1]$$

9 For the sequence 2, 7, 14, 23, 34, 47,

(a) find the next two terms,

$$Answer(a) \qquad , \qquad [2]$$

(b) find a formula for the *n*th term.

$$Answer(b) nth term =$$
 [4]

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10 The graphs (a) to (f) below show some of the following functions (A to H).

$$A \quad f(x) = 4 - 2x$$

E
$$f(x) = 2^{-x}$$

$$B f(x) = 2^x$$

$$F f(x) = \frac{4}{x}$$

$$C ext{ } f(x) ext{ } :$$

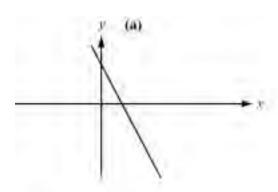
C
$$f(x) = x^2 - 4x + 4$$

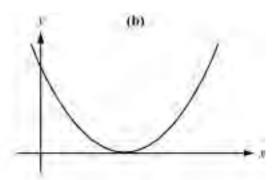
$$G f(x) = |x-3|$$

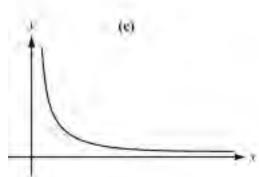
$$D f(x) = \cos x$$

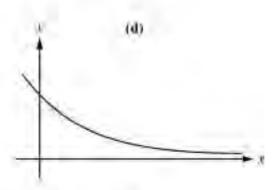
$$H f(x) = \sin 2x$$

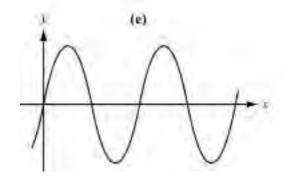
Match each graph with its correct function.

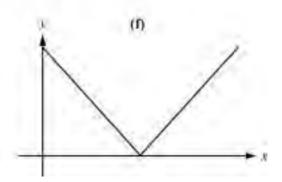












Answer(a) [1]

Answer(b) [1]

Answer(c) [1]

Answer(d) [1]

Answer(e) [1]

Answer(f) [1] 8

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