

---

CE AT 13+

# CORE MATHEMATICS

**ISEB**

Independent Schools  
Examinations Board

## Specimen Paper Mark Schemes

---

Date

### Information

Full marks should not be awarded to correct answers unsupported by necessary working.

Marks should be deducted for mathematically incorrect working.

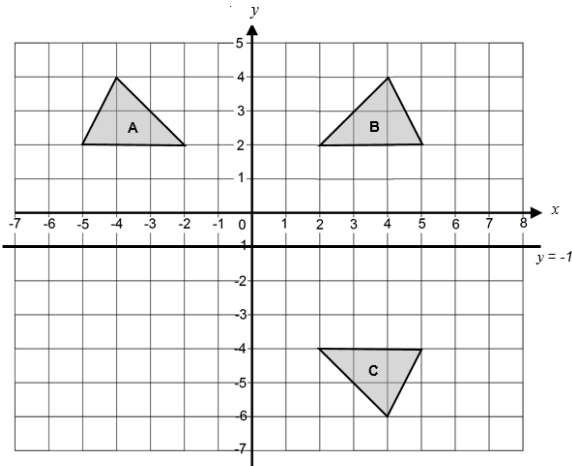
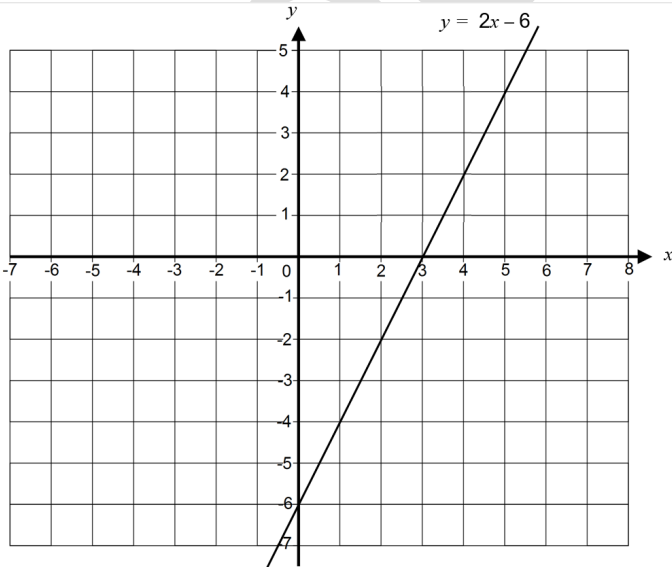
A maximum of 1 mark per question should be deducted for incorrect/missing units.

ISEB makes every reasonable effort to obtain clearance to reproduce all third-party content that it uses in its assessment material. In the event that it has inadvertently used material without permission, or failed to acknowledge the copyright owner correctly, ISEB will be pleased to make appropriate amendments at the earliest possible opportunity.

All copyright acknowledgements are reproduced online in the ISEB Copyright Acknowledgement Booklet. This is produced for each series of examinations and is freely available to download at [www.iseb.co.uk](http://www.iseb.co.uk) after the live examination series.

# CORE MATHEMATICS: NON-CALCULATOR

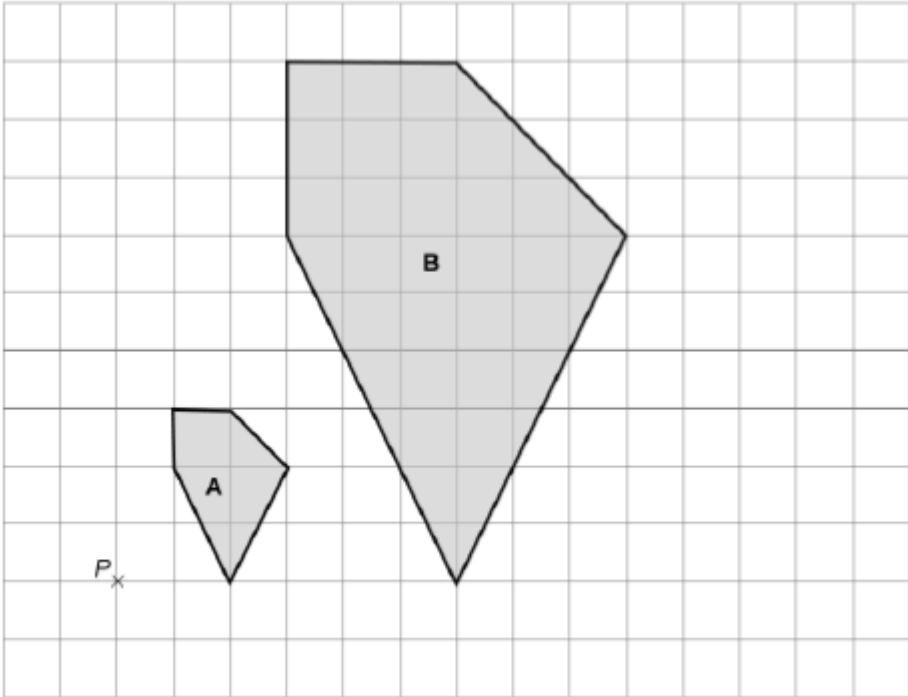
Q.	Answer	Mark	Additional Guidance
1. a)	i) $6.4 < 6.8$ ii) $8.7 > 8.14$ iii) $5.9 > 5.09$ iv) $7.6 = 7.60$ v) $32.4 > 3.24$ vi) $\frac{3}{5} = \frac{6}{10}$	4	A: 4 deduct 1 mark for each error
b)	i) seventy ii) seven hundredths	2	A: 2
c)	$a = 3.4$ $b = 3.65$	2	A: 2
2.	i) 11      ii) 50      iii) 6	6	M: 3 A: 3
3.	i) 4.81      ii) 34.08      iii) 1.52	6	M: 3 A: 3
4.	i) 2 048                  ii) 64 iii) 1 024                iv) 208 000	4	A: 4
5.	i) 200                  ii) 6 kg	5	M: 3 A: 2 must have units
6.	i) $144 \text{ cm}^2$ ii) $30 \text{ cm}^2$	6	M: 4 A: 2 must have units
7.	i) 0.6                  ii) 0.35	4	M: 2 A: 2
8. a)	i) $2 \times 2 \times 2 \times 3 \times 3$ ii) $2 \times 2 \times 3 \times 3 \times 5$	4	M: 2 A: 2 allow indices
b)	5	1	A: 1
9.	i) $\frac{3}{4}$ ii) $\frac{13}{18}$ iii) $7\frac{1}{2}$	6	M: 3 A: 3
10.	20	3	M: 2 A: 1
11.	i) 7                      ii) 11 iii) 12                  iv) 82	8	M: 4 A: 4
12.	i) $z = 7$ ii) $m = 3\frac{2}{3}$	4	M: 2 A: 2
13.	i) 48                  ii) 5	4	M: 2 A: 2

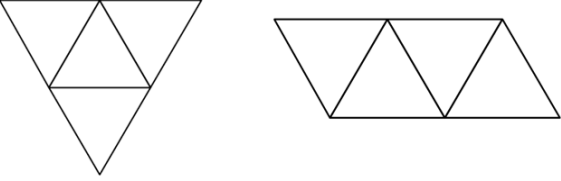

Q.	Answer	Mark	Additional Guidance	
14.	$p = 180 - 114$ $= \underline{66^\circ}$ $s = 180 - 132$ $= \underline{48^\circ}$ $w = \underline{66^\circ}$	5	M: 2 A: 3	
15.				
	i)	B drawn and labelled	2	A: 8
	ii)	C drawn and labelled	3	deduct 1 for lack of labels
	iii)	(0, -1) , 180°	3	deduct 1 for lack of bracket or comma
16.				
	$y = 2x - 6$ drawn		3	A: 3 credit e.g. table of values accept no working

Q.	Answer	Mark	Additional Guidance
17.	6	3	M: 2 A: 1
18. a)	40	3	M: 2 A: 1
b)	15	1	A: 1
c)	11	2	M: 1 A: 1
18.	<i>Trump's Original:</i> $38p \times 9 = £3.42$ <u><i>Trump's Original</i></u> is better value	3	M: 2 A: 1 must have units
19.	£7 169	3	M: 2 A: 1 must have units
<b>Total</b>		<b>100</b>	

# CORE MATHEMATICS: CALCULATOR

Q.	Answer		Mark	Additional Guidance
1.	a)	i) 24.1729      ii) 1.625	4	A: 4
	b)	i) 24.17      ii) 1.63	2	A: 2
2.	a)	4 : 3	2	A: 2 no working required
	b)	36	3	M: 2 A: 1
3.	i)	23, 27, 31	2	A: 2
	ii)	2, 1, $\frac{1}{2}$	2	A: 2
4.	i)	527.5      ii) 7.3	4	A: 4
	iii)	46.8      iv) -55.32		
5.	F	T	2	A: 2 lose 1 mark for each error
	F	F		
6.	i)	parallelogram	2	A: 2
	ii)	kite		
7.	a)	£142 800	3	M: 2 A: 1 must have units
	b)	15%	2	M: 1 A: 1 must have % sign
8.	a)	i) $2s$ ii) $t^2$	2	A: 2
		iii) $6a + 8$ iv) $21c^3$	4	A: 4
	b)	i) $11e - 8$ ii) $16 - 9z$	4	M: 2 A: 2
		c) i) $6(3x - 2)$ ii) $5(5y + 1)$	3	A: 3
9.	$w = 65^\circ$		3	M: 2 A: 1
10.	i)	50 cm      ii) $154 \text{ m}^2$	6	M: 4 A: 2 must have units
11.	i)	mode = 4	1	M: 4 A: 5
	ii)	mean = 6.5	3	
	iii)	median = 7	3	
	iv)	mode: does not represent the set well as it is the smallest	2	

Q.	Answer	Mark	Additional Guidance
12. a)	$w = 54^\circ$	5	M: 4 A: 1
b)	$y = 176^\circ$	3	M: 2 A: 1
13.			
a)	shape B drawn and labelled	3	A: 3
b)	i) $31.5 \text{ cm}^2$ ii) $23.67 \text{ cm}$	4	M: 2 A: 2 must have units
14. a)	32.5 km/h	3	M: 2 A: 1 must have units
b)	49 km	3	M: 2 A: 1 must have units
15. a)	43 cm	1	A: 1 must have units
b)	i) 110 N    ii) 36.5 cm	4	M: 2 A: 2 must have units

Q.	Answer	Mark	Additional Guidance
16.	20	4	M: 3 A: 1
17.	5	3	M: 2 A: 1 expect equation $4x + 3 = 23$
18.		4	A: 4 need not be accurate deduct marks for extra nets
19.	15	4	M: 3 A: 1  $5+4+3+2+1$
20.	£6 568.50 or £6 568.60	4	M: 3 A: 1
<b>Total</b>		<b>100</b>	