



**General Certificate of Secondary Education**

**Applications of Mathematics 9370**

**Unit 2 Foundation Tier 93702F**

**Mark Scheme**

*Specimen Paper*

## Mark Schemes

Principal Examiners have prepared these mark schemes for specimen papers. These mark schemes have not, therefore, been through the normal process of standardising that would take place for live papers.

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## Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

- M** Method marks are awarded for a correct method which could lead to a correct answer.
- A** Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
- B** Marks awarded independent of method.
- Q** Marks awarded for quality of written communication. (QWC)
- M dep** A method mark dependent on a previous method mark being awarded.
- B dep** A mark that can only be awarded if a previous independent mark has been awarded.
- ft** Follow through marks. Marks awarded following a mistake in an earlier step.
- SC** Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
- oe** Or equivalent. Accept answers that are equivalent.  
eg, accept 0.5 as well as  $\frac{1}{2}$
- eeoo** Each error or omission.

## A2 Foundation Tier

Q	Answer	Mark	Comments
1	History = 60%	M1	or $ICT = \frac{36}{50}$ and English = $\frac{39}{50}$ or History = 0.6 and ICT = 0.72 and English = 0.78
	English	A1	
2(a)	B2	B1	
2(b)	C3, D3, C4, D4	B2	B1 For 3 correct squares listed
2(c)	West	B1	
3(a)	Any rectangle drawn	M1	
	Rectangle 9 by 6	A1	
	Rectangle divided in ratio 2 : 1	B1	Any correct division
	Correct label on at least one part	B1ft	
3(b)	Any correct method eg, $6 \times 6$ or $9 \times 4$ or $54 \times \frac{2}{3}$ or a successful counting method	M1	
	(their) $36 \times 2.50$	M1	
	(£)90	A1	
4(a)(i)	$40^\circ$	B1	
4(a)(ii)	$270 - 140$ or $360 - 90 - 140$	M1	
	$130^\circ$	A1	
4(b)	$2 \times 80 + 2 \times 45 (= 250)$ or $80 + 45 + 80 + 45 (= 250)$	M1	or 0.8 and 0.45 seen
	(their) $250 \div 100$	M1	or $2 \times 0.8 + 2 \times 0.45$ or $0.8 + 0.45 + 0.8 + 0.45$
	2.5 metres	B1ft	

Q	Answer	Mark	Comments
5(a)	One	B1	
5(b)	$\frac{120}{8} \times 5$	M1	oe
	75	A1	
6	36 seen <b>or</b> 27 seen	M1	Allow if marked unambiguously on graph
	36 (-) 27	M1	Allow if difference shown unambiguously on graph
	Increase gap (by 9 m)	A1	QWC Strand (iii) - To achieve a correct solution a clear organised approach must be evident
7	Square shaded in bottom right corner	B1	
	Two squares shaded 4th row squares 2 and 3	B1	
8(a)	426.0096	M1	
	£426.01	A1	
8(b)	$\frac{5}{100} \times 400 (= 20)$	M1	oe or $1.05 \times 400$
	420	A1	
	Javed's is lower ( $420 < 426.01$ )	Q1	QWC Strand (ii) - Answer of lower with clear evidence
9(a)	Vertical line correct	B1	
	Horizontal lines correct	B1	
9(b)	$1.1 \times 295 (= 324.5)$	M1	
	(their) $324.5 - 310 (= 14.5)$	M1	
	15	A1	

Q	Answer	Mark	Comments
10(a)	$\frac{2012-1948}{4} (-1)$	M1	or years listed 1952, 1956, 1960, ..., 2008
	15	A1	
10(b)	Correct line drawn	B1	
10(c)	$(19 \times 5) + (13 \times 3) + (15 \times 1)$ or $95 + 39 + 15$	M1	
	149	A1	
10(d)	$1.6 \times 0.3 \times 1.75$ or $1.8 \times 0.45 \times 1.75$ or $1.6 \times 0.15 \times 1.75$ Correct method for one cuboid	M1	$1.6 \times 0.3 = 0.48$ or $1.6 \times 0.15 = 0.24$ or $1.8 \times 0.45 = 0.81$ Correct method for one rectangle
	$1.6 \times 0.3 \times 1.75$ and $1.8 \times 0.45 \times 1.75$ and $1.6 \times 0.15 \times 1.75$	M1	$1.6 \times 0.3 = 0.48$ and $1.6 \times 0.15 = 0.24$ and $1.8 \times 0.45 = 0.81$
	$0.84 + 1.4175 + 0.42$ Allow error in <b>one</b> volume	M1	$(0.48 + 0.24 + 0.81) \times 1.75$ Allow error in <b>one</b> area
	2.6775 or 2.68	A1	

Q	Answer	Mark	Comments
<b>11(a)</b>	Minutes $200 \times 6\text{p}$ or £12	M1	Option 1
	$150 \times 10\text{p}$ or £15	M1	
	£27 extra	A1	
	$400 \times 6\text{p}$ or £24	M1	Option 2
	Option 2 <b>and</b> £24 <b>and</b> £27	A1	QWC Strand (ii) - A structured argument using accurate mathematical language is essential to obtain full marks
<b>11(b)(i)</b>	(£)25	B1	
	150 (minutes)	B1	
<b>11(b)(ii)</b>	$500 - 150$ (or 350) <b>or</b> $43 - 25$ (or 18)	M1	oe Allow data from any two points
	(their) $18 \div$ (their) $350 (\times 100)$	M1	oe or 0.05(1...) seen
	5.1 (pence)	A1	
<b>12(a)</b>	$2 \times 450$ <b>or</b> $2 \times 125$ <b>or</b> $4 \times 54$ <b>or</b> $4 \times 10$ <b>or</b> $1 \times 25$	M1	<b>or 900 or 250 or 216 or 40 or 25</b>
	$2 \times 450$ <b>and</b> $2 \times 125$ <b>and</b> $4 \times 54$ <b>and</b> $4 \times 10$ <b>and</b> $1 \times 25$	M2	M1 At least three correct products seen
	$900 + 250 + 216 + 40 + 25 (= 1431)$	A1	
<b>12(b)</b>	(Length of net $\Rightarrow$ ) $5 + 18 + 5 + 18 + 1$	M1	Allow <b>one</b> incorrect length
	No <b>and</b> $47 > 40$	Q1	oe QWC Strand (ii) - Answer No with clear evidence

Q	Answer	Mark	Comments
13(a)	10.15	B1	
	(forms an) isosceles triangle	B1	oe
13(b)	$9.8 \div 2.0$	M1	$100 \div 2(.0) (\times 9.8)$ or $50 (\times 9.8)$ Allow $10 \div 2$ and $5 \times 9.8$ Condone attempts to change to different units by multiplying or dividing by 10, 100, .....
	4.9	A1	or 490
	5	B1ft	
14	$90^\circ$ angle correct	B1	$\pm 2^\circ$
	Left hand vertical line of 6 cm	B1	$\pm 1$ mm
	Arcs at 10 cm crossing at C and joined	B1	
	Arc length 15 cm from C	B1	Evidence of measuring diagonal length from C



Q	Answer	Mark	Comments
15	$3.14(\dots) \times 2.5^2 \times 9$ (or 176.7...)	M1	
	$2 \times 1000 \div$ (their) 176.7 ...)	M1	
	11.3 (17...)	A1	
	(their) 11.3 (17...) $\times 50$	M1	Allow (their) $11 \times 50$
	(their) $565.8(\dots) - 242$	M1	oe Allow $550 - 242$
	(£) 3.23 or £3.24	A1	Allow (£) 3.08 if 11 used QWC Strand (ii) - A structured argument using accurate mathematical language is essential to obtain full marks
16	Number of cans in length ( $L$ ) Number of cans width ( $W$ ) Number of cans in height ( $H$ ) ( $LWH = 48$ ) For example $L = 8, W = 2, H = 3$ $L = 4, W = 4, H = 3$ $L = 6, W = 4, H = 2$ $L = 12, W = 4, H = 1$ $L = 16, W = 3, H = 1$ $L = 12, W = 2, H = 2$	M1	<b>Not</b> $L = 48, W = 1, H = 1$
	Calculating dimensions from: (their) $L \times 74$ or 75 (their) $W \times 74$ or 75 (their) $H \times 108$ or 110	M1	Award this mark for two correct dimensions from $\times 74$ (75) and $\times 108$ (110) with $L, W$ and $H$ <b>any</b> factors of 4 apart from 1 and 48 ( <b>not</b> 74, 108, 3552 or 5184) Allow rounded lengths eg, 75, 110
	For example 592 by 148 by 324 or 296 by 296 by 324 or 444 by 296 by 216	A1	Allow rounded lengths eg, 600 by 150 by 330 or 300 by 300 by 330 or 450 by 300 by 220 <b>Not</b> 3552 by 108 by 74 oe QWC Strand (ii) - A structured argument using accurate mathematical language is essential to obtain full marks