



Ratios (inc Scales)

Mark Scheme 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Ratios (inc Scales)
Booklet	Mark Scheme 2

Time Allowed: 64 minutes

Score: /53

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	(a)	102 to 106	2	B for 5.1 to 5.3 seen
	(b)	Correct position of F with correct arcs for angle bisector	5	B for Correct ruled angle bisector of <i>A</i> with correct arcs or B1 for correct bisector with no/wrong arcs and B2 for Arc centre <i>C</i> , radius 8 cm or B1 for arc centre <i>C</i> with incorrect radius or correct conversion to 8cm and B1 for marking position of F on <i>their</i> bisector and 8cm from <i>C</i> or on <i>their</i> arc centre <i>C</i>

2	(a)	(i)	49.5[0]	3	M2 for $16.5[0] \div 5 \times (5 + 3 + 7)$ or M1 for $16.5[0] \div 5$
		(ii)	66	1FT	FT <i>their</i> (a)(i) $\div 75 \times 100$ to 3 sf or better
		(b)	2 hours 39 mins 45 secs	3	B2 for 159.75 oe, e.g. 2.6625 [h] 9585 [s] or M1 for 3 hrs 33 mins oe / (2 + 9 + 1) oe
		(c)	18.75 final answer	3	M for $16.5[0] \div 0.88$ oe or M1 for 16.5[0] associated with 88[%]

3		48	2	M1 for 15^2 or $\left(\frac{1}{15}\right)^2$ or $\frac{1}{15^2}$ or $\sqrt{10800}$ or $\frac{1}{\sqrt{10800}}$
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4	(a)	[0]44 to [0	1	
	(b)	12.6 to 13.2	2	B1 for 8.4 to 8.8 seen
	(c)	340	1	
	(d)	1 : 150 000	2	M1 for $\times 100\,000$ soi
	(e)	Arcs for perp bisector of <i>SL</i>	1	Two pairs of correct arcs
		Ruled perp bisector of <i>SL</i>	1	Within tolerance of overlay
		Arcs for bisector of angle <i>PSL</i>	1	Marks on <i>PS</i> and <i>SL</i> plus one pair of correct arcs
Ruled bisector of angle <i>PSL</i>		1	Within tolerance of overlay	
(f)	B marked within accuracy	1	Within tolerance of overlay Dep on two correct bisectors drawn	
	3.375	2	M1 for 1.5×1.5^2 or $(2/3)^2$ seen	

5	150	3	M for m^3 to cm^3 or cm^3 to m^3
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6	(a) (i)	45	2	M for $5 \times 63 \div 7$
	(ii)	20		2
	(iii)	23.4 or 23.38 to 23.41	3	M2 for $\frac{13 \times 4.9 - 48.8}{13 \times 4.9} \times 100$ or $\frac{4.9 - 48.8 \div 13}{4.9} \times 100$ Or M1 for $\frac{13 \times 4.9 - 48.8}{13 \times 4.9}$ or $\frac{48.8}{13 \times 4.9} \times 100$ or 76.6[...]
	(b)	128	4	Using fractions (percentages / decimals): M1 for $\frac{3}{4} \times \frac{3}{8} \left[= \frac{9}{32} \right]$ or $\frac{75}{100} \times 37.5$ [= 28.125%] A1 for $\frac{9}{32}$ or 28.125[%] M1 for $36 \div \frac{9}{32}$ oe or $36 \times \frac{100}{28.125}$ oe Partial percentages M1 for (Remaining) $\frac{100 \times 36}{37.5}$ [= 96] A1 for 96 M1 for $96 \div \frac{75}{100}$ oe SC1 for 288

7	72	2	M1 for $84 \div 7$
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8	180	2	M1 for $\frac{300 \times 12}{20}$ oe
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9	30 000	3	M2 for $7500 \times 200^2/100^2$ oe or M1 for 200^2 seen
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