



Percentages

Mark Scheme 7

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Percentages
Booklet	Mark Scheme 7

Time Allowed: 57 minutes

Score: /47

Percentage: /100

Grade Boundaries:

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

<p>1 (a (i)) 45</p> <p>(ii) 20</p> <p>(iii) 23.4 or 23.38 to 23.41</p>		<p>2</p> <p>2</p> <p>3</p>	<p>M for $5 \times 63 \div 7$</p> <p>M for $5 \times 56 \div 14$</p> <p>M2 for $\frac{13 \times 4.9 - 48.8}{13 \times 4.9} \times 100$ or $\frac{4.9 - 48.8 \div 13}{4.9} \times 100$</p> <p>Or</p> <p>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[...]</p>
<p>(b) 128</p>		<p>4</p>	<p>Using fractions (percentages / decimals):</p> <p>M1 for $\frac{3}{4} \times \frac{3}{8} \left[= \frac{9}{32} \right]$ or $\frac{75}{100} \times 37.5$ [= 28.125%]</p> <p>A1 for $\frac{9}{32}$ or 28.125[%]</p> <p>M1 for $36 \div \frac{9}{32}$ oe</p> <p>or $36 \times \frac{100}{28.125}$ oe</p> <p>Partial percentages</p> <p>M1 for (Remaining) $\frac{100 \times 36}{37.5}$ [= 96]</p> <p>A1 for 96</p> <p>M1 for $96 \div \frac{75}{100}$ oe</p> <p>SC1 for 288</p>

<p>2</p> <p>(a) (i) 126 (ii) 144</p> <p>(b) 16.66 . . . to 16.67 or 16.7 oe</p> <p>(c) (i) 22.18 to 22.19 or 22.2 oe</p> <p>(ii) 58 www</p> <p>(d) (i) 50, 70, 100, 135 $(5 \times 50 + 14 \times 70 + 29 \times 100 + 32 \times 135) [= 8450]$ $\div 80$ or their $\sum f$ 106 or 105.6 or 105.625 or 105.62 or 105.63 cao www</p> <p>(ii) 1 2.9 oe 4.27 [4.266 to 4.267] oe</p>	<p>2 M1 for $x + x + 18 + 90 = 360$ or better</p> <p>1 ft ft their $x + 18$</p> <p>2 M1 for $60/360 \times 100$ oe (implied by answer 16.6)</p> <p>3 M2 for $(35 + 36)/320 \times 100$ or B1 for 36 or 35 or 71 seen</p> <p>2 ft For 2ft, 114 – their (a)(ii)/360×140 correctly evaluated (correct or to the nearest integer) or M1 for $(360 - 60 - 72)/360 \times 180$ [114] or 56ft (their (a)(ii)/360×140) seen</p> <p>M1 At least 3 correct mid-values seen</p> <p>M1 $\sum fx$ where x is in the correct interval allow one further slip</p> <p>M1 Depend on second method</p> <p>A1 isw conversion to mins/secs & reference to classes</p> <p>B3 for 2.9 and 4.27 or B2 for 2.9 or 4.27 and B1 for 1</p> <p>4 Or SC2 for 0.25 oe and 0.725 oe and 1.066 to 1.07 oe seen Or SC1 for any pair of the above seen</p>
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3	<p>(a) (i) 5</p> <p>(ii) 108</p> <p>(b) Correct conversion of money $J \times 0.718$ or $A \div 0.718$</p> <p>Correct equalising of weights e. $J \times \frac{2[0]}{3[0]}$ or $A \times \frac{3[0]}{2[0]}$ or $J \div 3$ and $A \div 2$ or $J \div 30$ and $A \div 20$</p> <p>97 to 98 or 201[.39...] and Ann <u>48.9[4..]</u> and 48.2[0] and Ann or 68[.16] to 68.[2] and <u>67[.13]</u> and Ann <u>4.88... to 4.9</u> and 4.82 and Ann or 6.8[1..] to 6.82 and <u>6.7[1...]</u> and Ann <p style="text-align: right;">www</p> <p>(c) 302 Final answer</p> <p>(d) 13.6[0]</p> <p>(e) 12</p> </p>	<p>2 M1 for $\frac{3 \times 15}{(5+3+1)}$</p> <p>2 M1 for $60 \times \frac{9}{5}$ oe</p> <p>M1 Correct conversion of money soi by 146.83[1] rounded or truncated to 3sf or 134.26[1...] rounded or truncated to 3 sf if done 1st</p> <p>M1 Correct equalising of weights or money Accept other methods that give a pair of comparable values for method and accuracy marks This mark can be implied by values seen correct to 3 sf or better</p> <p>The underlined values imply M1 for the money conversion</p> <p>A2 Or A1 for 97 to 98 or 201[.39...] or a correct pair of values with wrong/no conclusion</p> <p>3 M1 for $60 \times 60 \times 4$ soi by 14400 or figs 6048 or figs 3024 and M1 for $\div (1000 \times 20)$ soi Answer 302.4 implies M2</p> <p>3 M2 for $\frac{15.3[0]}{1.125}$ oe or M1 for 15.3[0] associated with 112.5%</p> <p>1</p>
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4	$66\frac{2}{3}$ or 66.7 www	3	M2 for $\frac{\frac{4}{3}\pi r^3}{\pi r^2(2r)} (\times 100)$ or M1 for $\pi r^2(2r)$
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