



# Percentages

## Mark Scheme 6

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Percentages
Booklet	Mark Scheme 6

**Time Allowed:** 63 minutes

**Score:** /52

**Percentage:** /100

**Grade Boundaries:**

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

1	20.6 or 20.58 to 20.59	3	<p><b>M2</b> for <math>\frac{85-67.5}{85} \times 100</math> or <math>\left(1 - \frac{67.5}{85}\right) \times 100</math></p> <p>or <b>M1</b> for <math>\frac{85-67.5}{85}</math> or <math>\frac{67.5}{85} \times 100</math></p> <p>If zero scored <b>SC1</b> for <math>\frac{67.5-85}{85} \times 100</math></p>
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2	<p><b>(a) (i)</b> <math>\frac{512}{7+11+14} \times 14</math></p> <p><b>(ii)</b> 112</p> <p><b>(b)</b> 10 100</p> <p><b>(c)</b> 19</p> <p><b>(d) (i)</b> 4093000</p> <p><b>(ii)</b> <math>4.093 \times 10^6</math></p> <p><b>(e)</b> 198 or 198.1 to 198.2</p>	<p><b>M2</b></p> <p><b>1</b></p> <p><b>2</b></p> <p><b>2</b></p> <p><b>1</b></p> <p><b>1FT</b></p> <p><b>3</b></p>	<p>or <b>M1</b> for <math>\frac{512}{7+11+14}</math></p> <p><b>M1</b> for <math>224 \times 45</math> soi by 10080</p> <p><b>M1</b> for <math>224 \div 12</math> soi by 18.66 to 18.67 or 18.7 or <math>18\frac{2}{3}</math></p> <p><i>their (d)(i)</i></p> <p><b>M2</b> for <math>\frac{8.2-2.75}{2.75} \times 100</math> oe</p> <p>or <b>M1</b> for <math>\frac{8.2}{2.75} \times 100</math> or <math>\frac{8.2-2.75}{2.75}</math></p>
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3	(a) (i)	49.5[0]	3	<b>M2</b> for $16.5[0] \div 5 \times (5 + 3 + 7)$ or <b>M1</b> for $16.5[0] \div 5$
	(ii)	66	<b>1FT</b>	<b>FT</b> <i>their</i> (a)(i) $\div 75 \times 100$ to 3 sf or better
	(b)	2 hours 39 mins 45 secs	3	<b>B2</b> for 159.75 oe, e.g. 2.6625 [h] 9585 [s] or <b>M1</b> for 3 hrs 33 mins oe / (2 + 9 + 1) oe
	(c)	18.75 <b>final answer</b>	3	<b>M</b> for $16.5[0] \div 0.88$ oe or <b>M1</b> for 16.5[0] associated with 88[%]

4	(a) (i)	$\frac{920}{8} \times 7$ [=805] oe	1	$\frac{2990}{26} \times 7$ [= 805]
	(ii)	30.8 or 30.76 to 30.77	2	<b>M1</b> for $\frac{8}{(11+8+7)}$ [ $\times 100$ ]
	(b)	1211 final answer	5	<b>B4</b> for 13 926.5[0] [area A total sales] or <b>B3</b> for 11 040 [area B] <b>and</b> 10 867.50 [area C] or 21 907.5 [area B + area C] or <b>B2</b> for 11 040 [area B] <b>or</b> 10 867.50 [area C] or <b>M1</b> for 736 [B tickets] and <b>M1</b> for 483 [C tickets]  After 0 scored <b>SC2</b> for answer of 1196 or <b>SC1</b> for 13754 (A total sales)

(c)	37720	3	<b>M2</b> for $\frac{35834}{0.95}$ oe or <b>M1</b> for 35834 associated with 95[%]
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5	<p><b>(a)</b></p> <p><b>(b)</b></p>	<p>62705</p> <p>10.9 or 10.88...</p>	<p><b>2</b></p> <p><b>3</b></p>	<p><b>M1</b> for <math>75246 \div 6</math> soi by 12541 or <math>75246 \times 5</math></p> <p><b>M2</b> for <math>\frac{(150675-135890)}{135890} \times 100</math> oe</p> <p><b>or</b> <b>M1</b> for correct fraction soi by 0.1088... or <math>\frac{150675}{135890} \times 100</math> soi by 110.88...</p>
	<p><b>(c)</b></p> <p><b>(d) (i)</b></p> <p><b>(ii)</b></p>	<p>127000</p> <p>59112 to 59113 or 59100 or 59110 or 59119 to 59120 or 59100 nfww</p> <p>(a) 0.0</p> <p>(b) 7580 or 7582 or 7581 or 7583 nfww</p>	<p><b>3</b></p> <p><b>3</b></p> <p><b>1</b></p> <p><b>4</b></p>	<p><b>M</b> for <math>135890 \div 1.07</math> oe <b>or</b> <b>M1</b> for 135890 associated with 107%</p> <p><b>M</b> for <math>\pi \times 21 \times (30^2 - 2^2)</math> oe</p> <p><b>Or</b> <b>M1</b> for <math>\pi \times 21 \times 30^2</math> or <math>\pi \times 21 \times 2^2</math></p> <p><b>1</b></p> <p><b>4</b> <b>M</b> for <math>21 \times 29.7 \times their\ 0.0125</math> [=7.796 or 7.8[0]] <b>and</b> <b>M1</b> for <i>their (d)(i)</i> <math>\div (21 \times 29.7 \times their\ 0.0125)</math> <b>A1</b> for 7580 to 7583.2 (non integer)</p> <p>If 0 then <b>SC1</b> for <i>their (d)(i)</i> <math>\div (21 \times 29.7 \times 0.125)</math></p>