



# Percentages

## Mark Scheme 2

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

**Time Allowed:** 59 minutes

**Score:** /49

**Percentage:** /100

**Grade Boundaries:**

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

1	2.5[0] or 2.501... nfw	3	<b>M2</b> for $2.1 \times \left(1 + \frac{6}{100}\right)^3$ oe or <b>M1</b> for $2.1 \times \left(1 + \frac{6}{100}\right)^n$ oe where $n \geq 2$ or for figs $21 \times \left(1 + \frac{6}{100}\right)^3$ oe
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2	(a) (i)	2	<b>M1</b> for $72 \div (7 + 2 + 3)$
	(ii)	2	<b>M1</b> for $13.5 \div 3 \times (7 + 2 + 3)$ oe
	(iii)	3	<b>M2</b> for $8.4[0] \div 1.12$ oe or <b>M1</b> for $112[\%]$ associated with $[\$]8.4[0]$ oe
	(b) (i)	<b>M2</b>	<b>M1</b> for a correct relevant area inside the hexagon e.g. $0.5 \times 2 \times 2 \sin 60$ oe
		<b>A1</b>	Must see 10.38 to 10.39[...]
		2	<b>M1</b> for $10.4 \times$ figs 45 [figs 467 to 468]
		4	<b>M1</b> for <i>their</i> (b)(ii) $\times 1250 \div 1000$ <b>A1 FT</b> for <i>their</i> (b)(ii) $\times 1250 \div 1000$ evaluated to at least 3 sf
			<b>M1dep</b> on previous <b>M1</b> for <i>their</i> mass in tonnes (rounded up) $\times 45.5[0]$ if between 6 and 10 or for <i>their</i> mass in tonnes (rounded up) $\times 47[.00]$ if between 1 and 5 or for <i>their</i> mass in tonnes (rounded up) $\times 44[.00]$ if over 10

3	460	3	<b>M2</b> for $\frac{391 \times 100}{(100 - 15)}$ oe or <b>M1</b> for recognising 391 as (100 - 15)% soi
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4	7.7	2	<b>M1</b> for $44 \times \frac{17.5}{100}$ oe
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5	25[.00]	3	<b>M2</b> for $30 \times \frac{100}{120}$ oe or <b>M1</b> for 30 associated with 120% e.g. $1.2x = 30$
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6	(a) (i) 3216 Final answer (ii) 1307 Final answer	2	<b>M</b> for $(18900 - 5500) \times 0.24$ oe <b>2FT</b> $(18900 - \textit{their (a)(i)}) \div 12$ correctly evaluated <b>M1</b> for $(18900 - \textit{their (a)(i)}) \div 12$
	(b) 4.5[%] nfww	2	<b>M1</b> for $\frac{19750.50[-18900]}{18900} \times 100$ or $\frac{19750.50 - 18900}{18900}$
	(c) A by 31.05... or 31.04 to 31.05 or 31.[0] 31.1[0]	5	<b>M</b> for $1500 \times 4.1/100 \times 3$ [+ 1500] oe <b>M1</b> for $1500 \times 1.033^3$ [- 1500] oe <b>A1</b> for 1684.5 or 184.5 or 1653[.45..] or 153[.45..]  <b>and M1dep</b> for subtraction of <i>their</i> amounts or <i>their</i> interests

7	(a) (i)	[0]8	1	
	(ii)	$\frac{1.8}{27} \times 60 [= 4]$ oe	M2	M1 for $\frac{1.8}{27}$ oe [0.0667 or better]
	(b) (i)	275	3	M2 for $\frac{15-4}{4} \times 100$ or $\frac{15}{4} \times 100 - 100$ oe or M1 for $\frac{15-4}{4}$ or $\frac{15}{4} \times 100$ or oe 375
	(ii)	73.3[3...]	3	M2 for $\frac{1.8}{15} \times 60 [=7.2 \text{ min}]$ and $\frac{27 - \text{their } 7.2}{27} \times 100$ oe or M1 for $\frac{1.8}{15} \times 60 [=7.2 \text{ min}]$ or final answer of 26.6[6...] or 26.7
	(iii)	25	2	M1 for $\frac{9}{\text{figs } 36}$ oe