



# Ratios (inc Scales)

## Mark Scheme 3

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Ratios (inc Scales)
Booklet	Mark Scheme 3

**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)	34.4	2	SC1 figs 344 seen
	(b)	300	2	SC1 figs 3 seen

2		13500	3	M1 $135 \times 10^2$ or $408000 \div 10^3$ oe A1 A1
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3		112	2	M for $240 \div (7 + 8) \times 7$
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4	(a) (i)	4950	2	M1 for $9000 \times 0.55$ oe
	(ii)	9 : 11	1	Accept 1 : 1.22 or 0.818 : 1 After 4050 in (a)(i) allow SC1 for 11 : 9 etc
	(b)	1504	1	
		564	1	
		188	1	After 0 scored M1 for $2256 \div (8 + 3 + 1)$ soi
	(c) (i)	6847.99 or 6848 or 6850	3	M2 for $15000 \times 0.77^3$ oe (6847. (..)ww imp M2) or M1 for $15000 \times 0.77^2$ oe soi (8893.5) After 0 scored SC1 for art 27913 or 27910 or 27900
	(ii)	54.3 (54.33 to 54.35)	3ft	ft their $(15000 - \text{their (c)(i)})/15000 \times 100$ to 3sf or better <b>but not</b> for negative answer or from 4650 in (c)(i) leading to 69% M2 for $1 - 0.77^3$ (0.543..) or their $(15000 - \text{their (c)(i)})/15000 (\times 100)$ or SC2ft their $(\text{c)(i)}/15000 \times 100$ correctly evaluated (45.65 to 45.67 or 45.7) or M1 for $0.77^3$ (0.4565..) or their $(\text{c)(i)}/15000$

5	(a) 0.54	2	<b>M1</b> for $\frac{2.7 \times 20000}{100000}$ oe or <b>SC1</b> for figs 54 in answer
	(b) 1.61	2	<b>SC1</b> for figs 161 or <b>M1</b> $200^2$ or $20\,000^2$ seen

6 (a)	32	2	<b>B1</b> figs 32 or 1 cm to 2.5 km or 8 000 000 seen
(b)	37.5	2	<b>B1</b> (figs 25) <sup>2</sup> seen or figs 375 in answer

7	2.88		<b>M1</b> $40^3$ oe seen <b>A1</b> 2 880 000 <b>B1</b> if their $2\,880\,000 \div 100^3$ or <b>B1</b> 0.000045 <b>M1</b> $40^3$ <b>A1</b> cao or <b>M1</b> $0.4^3$ <b>M1</b> $45 \times 0.4^3$ <b>A1</b>
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8 (a)	11:14		
(b)	50		<b>M1</b> for $(220 + 280) \div 10$ o.e.
(c)	12		<b>M1</b> for $21 \div (4 + 3) \times 4$ (or 3) o.e.
(d)	280		<b>M1</b> for $0.35 \times$ their 500 (175) <b>M1</b> dependent $\times 1.60$
(e)	240		<b>M1</b> for dividing 264 by 1.1 oe

9	(a) (i)	8.4(0)	B2	B1 for 1.2 or 3.6 seen or SC1 for figs 84 in answer
	(ii)	$\frac{their(i)}{20} \times 100$ oe 42 ft www2	M1 A1ft	ft their $8.4 \times 5$ After 0 scored SC1 ft for 58% or $\frac{20 - their(i)}{20} \times 100$ correctly given
	(b)	6	B2	M1 for $9$ or $8 \div (1 + 8 + 3)$ soi
	(c)	$\frac{2.4}{2} \times 3$ oe (= 3.6 seen) or their (a) (i) $\div 7 \times 3$  $\frac{3}{12} \times 9$ oe (= 2.25 seen) 1.6(0) cao www3	M1  M1 A1	
	(d)	$\frac{2.40}{1.25}$ oe 1.92 www2	M1 A1	Implied by figs 192
				[11]