



# Addition/Subtraction/ Multiplication/Division of Fractions & Decimals

## Mark Scheme 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Add/Sub/Multiplication/Division of Fractions & Deci
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%

<b>1</b>	with 2 correct steps seen $\frac{18k}{35k}$	<b>3</b>	<b>B1</b> for $\frac{5k}{3k}$ and <b>M1</b> for $\frac{6}{7} \times their \frac{3}{5}$
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<b>2</b>	$\frac{17}{\frac{9}{5}}$ or $\frac{17}{9} \div \frac{5}{2}$  $\frac{17}{9} \times \frac{2}{5} = \frac{34}{45}$	<b>M1</b>	$\frac{34}{\frac{18}{45}}$ or $\frac{34}{18} \div \frac{45}{18}$
		<b>M1</b>	$\frac{34}{18} \times \frac{18}{45} = \frac{34}{45}$

<b>3</b>	$\frac{1}{100} + \frac{4}{25}$ or $0.1^2 + 0.4^2$ oe $\frac{1}{100} + \frac{16}{100} = 0.17$ or $0.01 + 0.16 = 0.17$	<b>M1</b>	Independent
		<b>M1</b>	

<b>4</b>	Correct working seen	<b>2</b>	<b>M1</b> for correct step <b>M1</b> for correct step
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<b>5</b>	$\frac{55}{30} + \frac{27}{30}$ oe or (1) $\frac{25}{30} + \frac{27}{30}$ oe	<b>M1</b>	for denominator of $30k$
	$\frac{82}{30}$ oe or (1) $\frac{52}{30}$ oe	<b>M1</b>	for denominator of $30k$ dependent on previous <b>M1</b>
	$2\frac{11}{15}$ <b>M2</b> must be scored	<b>A1</b>	If <b>M0</b> scored then <b>SC1</b> for common denominator of $30k$ seen

6	25 (correct working essential)	2	<b>M1</b> for $18 + 4 + 3$ with denominator 12 must be shown (oe is possible)
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7 (a)	$\frac{11}{12} - \frac{4}{12}$ oe $\frac{7}{12}$ cao ww 0	2	<b>M1</b> correct use of a common denominator <b>A1</b>
(b)	$\frac{1}{4} \times \frac{13}{11}$ oe $\frac{13}{44}$ cao ww 0	2	<b>M1</b> inversion and operation change <b>A1</b>

8	Answer given	3	<b>M1</b> $\frac{19}{15}$ <b>M1</b> $\frac{6}{15}$ or $\times \frac{15}{6}$ seen <b>E1</b> $= \frac{19}{6} = 3\frac{1}{6}$
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9	$2\frac{1}{12}$ cao with correct working	3	<b>M1</b> (1+) $\frac{6}{12} + \frac{4}{12} + \frac{3}{12}$ oe <b>A1</b> (1) $\frac{13}{12}$ or $\frac{25}{12}$ oe
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10	$\frac{1}{9}, \frac{1}{4}$ $\left(\frac{1}{9} + \frac{1}{4} = \right) \frac{4}{36} + \frac{9}{36} = \frac{13}{36}$	<b>M1</b> <b>E1</b>	Both fractions seen Both fractions over a common denominator and added to give $\frac{13}{36}$
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11	Working must be shown	2	<b>M1</b> $\frac{14}{9}$ and $\frac{16}{9}$ <b>M1</b> $\frac{14}{16} = \frac{7}{8}$ oe or visible cancelling
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<b>12</b>	<b>(a)</b>	36	<b>1</b>	
	<b>(b)</b>	correct working	<b>2</b>	<b>M1</b> for $\frac{7}{6}$ oe improper fraction <b>M1</b> for $\frac{12}{21} = \frac{4}{7}$ oe or visible cancelling

<b>13</b>	20 (but <b>3, 4 and 8 must be seen www</b> )	2	<b>M1</b> 3, 4 and 8 seen www
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<b>14</b>	Answer given so only working scores marks	2	<b>M1</b> $7/27 + 48/27$ or $7/27 + (1)21/27$ <b>M1</b> completely correct finish
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<b>15</b>	-8.3		Allow $-8\frac{3}{10}$
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<b>16</b>	Correct working	2	<b>M1</b> $\frac{15}{4} + \frac{4}{3} = \frac{45}{12} + \frac{16}{12}$ <b>M1</b> $\frac{61}{12} = 5\frac{1}{12}$
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17	$\frac{15a+32}{40}$ oe	2	<b>B1</b> $15a + 32$ seen or <b>SC1</b> $\frac{15a}{40} + \frac{32}{40}$ on answer line
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<b>18</b>	70	2	<b>M1</b> for $252 \times 1000 \div 60 \div 60$ oe
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19	$\frac{2}{c}$	3	<b>M1</b> $d + c - c + d$ or better <b>M1</b> common denominator $cd$ used
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20	1.59(459...) or $59/37$ or $1\frac{22}{37}$	2	<b>M1</b> $\frac{22}{37}$ or 0.5945... seen
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21	2	2*	<b>M1</b> $25c/35$ or $125c/175$ or $25c = 50$ or $125c = 250$ or $875c = 1750$ oe
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22	(a) 3 (b) 8	1 1	
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23	7	2*	<b>B1</b> for one of $-7/8, -1/8, -14/16, -2/16, -0.875,$ $-0.12$
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