

## FRACTIONS-SET-2

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| 1    | <p><b>Without using a calculator</b>, work out <math>\frac{2}{3} \div 1\frac{1}{5}</math>.</p> <p>You must show all your working and give your answer as a fraction in its simplest form.</p> <p style="text-align: right;">..... [3]</p>    |           |  |
| MS-1 | $\frac{6}{5}$  | <b>B1</b> | accept equivalent fractions e.g. $\frac{18}{15}$ |
|      | $\frac{2}{3} \times \textit{their} \frac{5}{6}$  | <b>M1</b> | or $\frac{10}{15} \div \frac{18}{15}$ oe         |
|      | $\frac{5}{9}$ cao  | <b>A1</b> |  |
|      |  |           |  |
| 2    | <p><b>Without using a calculator</b>, work out <math>\frac{12}{35} \times \frac{7}{9}</math>.</p> <p>You must show all your working and give your answer as a fraction in its simplest form.</p> <p style="text-align: right;">..... [2]</p> |           |  |
| MS-2 | $\frac{84}{315}$ or $\frac{4}{35} \times \frac{7}{3}$ or $\frac{12}{5} \times \frac{1}{9}$ or $\frac{4}{5} \times \frac{1}{3}$   | <b>M1</b> | Accept any correct cancelling                    |
|      | $\frac{4}{15}$ cao   | <b>A1</b> |  |

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| 3    | <p>Without using a calculator, work out <math>\frac{1}{4} + \frac{1}{6}</math>.</p> <p>Write down all the steps in your working and give your answer as a fraction in its simplest form.</p> <p style="text-align: right;"><i>Answer</i> ..... [2]</p> |                                     |   |
| MS-3 | $\frac{3}{12}$ and $\frac{2}{12}$<br>$\frac{5}{12}$ cao  | <b>M1</b><br><b>A1</b>              | Equivalent denominators can be used, working <b>must</b> be shown.  |
| 4    | <p><b>Without using a calculator</b>, work out <math>1\frac{1}{6} \div \frac{7}{8}</math>.</p> <p>Show all your working and give your answer as a fraction in its lowest terms.</p> <p style="text-align: right;"><i>Answer</i> ..... [3]</p>          |                                     |   |
| MS-4 | $\frac{7}{6}$ oe<br><i>their</i> $\frac{7}{6} \times \frac{8}{7}$ oe<br>$\frac{4}{3}$ or $1\frac{1}{3}$ cao<br>must see working  | <b>B1</b><br><b>M1</b><br><b>A1</b> | Or <b>M1</b> for $\frac{56}{48} \div \frac{42}{48}$ or equivalent division with fractions with common denominator |

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| 5    | <p>Without using your calculator, work out <math>2\frac{1}{4} - \frac{11}{12}</math>.</p> <p>You must show all your working and give your answer as a fraction in its lowest terms.</p> <p style="text-align: right;"><i>Answer</i> ..... [3]</p>            |   |   |
| MS-5 |  | $2\frac{3}{12}$ or $1\frac{15}{12}$ or $\frac{27}{12}$ or $\frac{9 \times 3}{4 \times 3}$<br><br><i>their</i> $(\frac{27}{12} - \frac{11}{12} = \frac{16}{12})$ oe<br><br>$1\frac{1}{3}$ or $\frac{4}{3}$ cao | <p><b>M1</b> Accept any correct conversion with common denominator <math>12k</math></p> <p><b>M1</b> Correct resolving of <i>their</i> subtraction with denominator <math>12k</math> showing full working</p> <p><b>A1</b> Working and then simplified answer must both be seen</p> |
|      |  |   |   |
| 6    | <p>Work out <math>\frac{2}{3} + \frac{1}{6} - \frac{1}{4}</math>, giving your answer as a fraction in its lowest terms.</p> <p>Do not use a calculator and show all the steps of your working.</p> <p style="text-align: right;"><i>Answer</i> ..... [3]</p> |   |   |

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| MS-6 | <p>Any two of <math>\frac{8}{12}, \frac{2}{12}</math> or <math>\frac{3}{12}</math> oe</p> <p><math>\frac{8}{12} + \frac{2}{12} - \frac{3}{12}</math> oe</p> <p><math>\frac{7}{12}</math></p> | <p><b>M1</b></p> <p><b>M1</b></p> <p><b>A1</b></p> | <p><b>M1</b> for any 2 correct over a common denominator<br/>e.g. <math>\frac{4}{6}</math> and <math>\frac{1}{6}</math></p> <p>or <b>SC2</b> for final answer <math>\frac{13}{12}</math> or <math>1\frac{1}{12}</math> with full working</p> |
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| 7 | <p>Work out <math>\frac{2}{3} - \frac{1}{4}</math>, giving your answer as a fraction in its lowest terms.</p> <p>Do not use a calculator and show all the steps of your working.</p> <p style="text-align: right;">.....[2]</p> |  |  |
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| MS-7 | <p><math>\frac{8}{12}</math> and <math>\frac{3}{12}</math> oe</p> <p><math>\frac{5}{12}</math> cao</p> | <p><b>M1</b></p> <p><b>A1</b></p> | <p>Correct fractions with common denominator</p> |
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| 8    | <p><b>Without using a calculator</b>, work out <math>\frac{3}{5} + \frac{1}{6}</math>.</p> <p>Write down all the steps of your working and give your answer as a fraction in its simplest form.</p> <p style="text-align: right;">..... [2]</p>   |  |                            |  |
| MS-8 |   | $\frac{18}{30}$ and $\frac{5}{30}$ oe must be shown<br><br>$\frac{23}{30}$ cao | <b>M1</b><br><br><b>A1</b> | $\frac{18k}{30k}$ and $\frac{5k}{30k}$   |
| 9    | <p><b>Without using a calculator</b>, work out <math>1\frac{2}{3} - \frac{11}{15}</math>.</p> <p>Write down all the steps of your working and give your answer as a fraction in its lowest terms.</p> <p style="text-align: right;">..... [3]</p> |  |                            |  |
| MS-9 | $\frac{5}{3}$   | $\frac{2}{3} + \frac{4}{15}$   | <b>B1</b>                  | Allow $\frac{5k}{3k}$<br><br><b>M1</b> Correct method to find common denominator<br>e.g. $\frac{75}{45}$ and $\frac{33}{45}$<br><br>Follow through <i>their</i> $\frac{5}{3}$ for the <b>M1</b> mark |
|      | $\frac{14}{15}$ cao   | $\frac{14}{15}$ cao  | <b>A1</b>                  |  |

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| 10 | <p><b>Without using your calculator</b>, work out <math>\frac{3}{8} \div 2\frac{1}{4}</math>.</p> <p>You must show all your working and give your answer as a fraction in its simplest form.</p> <p style="text-align: right;">..... [3]</p> |
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| MS-10 | $\frac{3}{8} \times \frac{4}{9}$ oe <b>or</b> $\frac{3}{8} \div \frac{18}{8}$ oe with<br>common denominator | <b>M2</b> | <b>B1</b> for $\frac{9}{4}$ oe seen<br>or <b>M1</b> for $\frac{3}{8} \times$ <i>their</i> $\frac{4}{9}$ |
|       | $\frac{1}{6}$ cao   | <b>A1</b> |   |

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| 11 | <p>(a) Write <math>\frac{11}{3}</math> as a mixed number.</p> <p style="text-align: right;">..... [1]</p> <p>(b) <b>Without using a calculator</b>, work out <math>\frac{1}{4} + \frac{5}{12}</math>.</p> <p>Show all the steps of your working and give your answer as a fraction in its lowest terms.</p> <p style="text-align: right;">..... [2]</p> |

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|-------|-----|---|-----------|---|
| MS-11 | (a) | $3\frac{2}{3}$ cao                      | <b>1</b>  |   |
|       | (b) | $\frac{3}{12}$ [and $\frac{5}{12}$ ] oe | <b>M1</b> | For correct method to find common denominator<br>e.g. $\frac{12}{48}$ and $\frac{20}{48}$ |
|       |     | $\frac{2}{3}$ cao                       | <b>A1</b> |   |

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