

SMART EXAM RESOURCES
0580 IGCSE MATH EXTENDED
TOPIC: NUMBERS
SUB-TOPIC: SUMS INVOLVING PROPER FRACTIONS
SET-1-QP-MS

1 Without using a calculator, work out $\frac{5}{6} - \frac{1}{2}$.

Show all the steps of your working and give your answer as a fraction in its simplest form.

..... [2]

MARK SCHEME:

$\frac{5}{6} - \frac{3}{6}$ oe	M1	oe for $\frac{5k}{6k} - \frac{3k}{6k}$
$\frac{1}{3}$ cao final answer	A1	

2 Without using your calculator, work out $\frac{11}{12} - \left(\frac{3}{4} - \frac{2}{3}\right)$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [4]

MARK SCHEME:

common denominator 12	B1	accept $k \times 12$ throughout
one correct from $\frac{9}{12}$ or $\frac{8}{12}$ oe	M1	accept $\frac{9k}{12k}$ or $\frac{8k}{12k}$
$\frac{5}{6}$ cao	A2	A1 for $\frac{10}{12}$ or $\frac{10k}{12k}$

3 Without using your calculator, work out $\frac{2}{3} - \frac{1}{12}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [2]

MARK SCHEME:

$\frac{8}{12}$ and $\frac{1}{12}$ oe	M1	For correct fractions with a common denominator $12k$
$\frac{7}{12}$ cao	A1	

4 Without using a calculator, work out $\frac{5}{6} + \frac{2}{3}$.

You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

MARK SCHEME:

$\frac{5}{6} + \frac{4}{6}$ oe	M1	2 correct fractions with a suitable common denominator $6k$
$1\frac{1}{2}$ cao	A2	A1 for $\frac{9}{6}$ oe

5 Without using a calculator, work out $\frac{12}{35} \times \frac{7}{9}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [2]

MARK SCHEME:

$\frac{84}{315}$ or $\frac{4}{35} \times \frac{7}{3}$ or $\frac{12}{5} \times \frac{1}{9}$ or $\frac{4}{5} \times \frac{1}{3}$	M1	Accept any correct cancelling
$\frac{4}{15}$ cao	A1	

6 Do not use a calculator in this question and show all the steps of your working.

Give each answer as a fraction in its lowest terms.

Work out.

(a) $\frac{3}{4} - \frac{1}{12}$

Answer(a) [2]

(b) $2\frac{1}{2} \times \frac{4}{25}$

Answer(b) [2]

MARK SCHEME:

(a) $\frac{9}{12} - \frac{1}{12}$ oe	M1	Must be shown
[=] $\frac{8}{12}$ oe [=] $\frac{2}{3}$	M1	Both fractions must be shown
(b) $\frac{5}{2} \times \frac{4}{25}$ oe	M1	Must be shown
Cancelling shown or $\frac{20}{50}$ oe [=] $\frac{2}{5}$	M1	Dependent and cancelling shown or a fraction and then $\frac{2}{5}$ must be shown

7 Without using a calculator, work out $\frac{1}{4} + \frac{1}{6}$.

Write down all the steps in your working and give your answer as a fraction in its simplest form.

Answer [2]

MARK SCHEME:

	$\frac{3}{12}$ and $\frac{2}{12}$ $\frac{5}{12}$ cao	M1 A1	Equivalent denominators can be used, working must be shown.
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8 Work out $\frac{2}{3} + \frac{1}{6} - \frac{1}{4}$, giving your answer as a fraction in its lowest terms.

Do not use a calculator and show all the steps of your working.

Answer [3]

MARK SCHEME:

Any two of $\frac{8}{12}, \frac{2}{12}$ or $\frac{3}{12}$ oe	M1	M1 for any 2 correct over a common denominator e.g. $\frac{4}{6}$ and $\frac{1}{6}$
$\frac{8}{12} + \frac{2}{12} - \frac{3}{12}$ oe	M1	or SC2 for final answer $\frac{13}{12}$ or $1\frac{1}{12}$ with full working
$\frac{7}{12}$	A1	

- 4 Work out $\frac{2}{3} - \frac{1}{4}$, giving your answer as a fraction in its lowest terms.

Do not use a calculator and show all the steps of your working.

.....[2]

MARK SCHEME:

$\frac{8}{12}$ and $\frac{3}{12}$ oe	M1	Correct fractions with common denominator
$\frac{5}{12}$ cao	A1	

5 **Without using your calculator**, work out $\frac{3}{4} + \frac{2}{3} - \frac{1}{8}$.

You must show all your working and give your answer as a mixed number in its simplest form.

..... [4]

MARK SCHEME:

	<p>Common denominator 24</p> <p>Two correct from $\frac{18}{24}$, $\frac{16}{24}$ and $\frac{3}{24}$ oe</p> <p>$1\frac{7}{24}$ cao</p>	<p>B1</p> <p>M1</p> <p>A2</p>	<p>accept $k \times 24$</p> <p>accept $\frac{18k}{24k}$, $\frac{16k}{24k}$ and $\frac{3k}{24k}$</p> <p>A1 for $\frac{31}{24}$ or $\frac{31k}{24k}$ or $1\frac{7k}{24k}$</p>
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