SMART EXAM RESOURCES
0580 IGCSE MATH EXTENDED
TOPIC: NUMBERS
SUB-TOPIC: WRITING AS A MIXED NUMBER
SET-1-QP-MS

1 **Without using your calculator**, work out $1\frac{5}{6} + \frac{9}{10}$.

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

Answer ..... [3]

MARK SCHEME:

	$\frac{55}{30} + \frac{27}{30}$ oe **or** (1)$\frac{25}{30} + \frac{27}{30}$ oe	**M1**	for denominator of $30k$
	$\frac{82}{30}$ oe **or** (1)$\frac{52}{30}$ oe	**M1**	for denominator of $30k$ dependent on previous **M1**
	$2\frac{11}{15}$ **M2** must be scored	**A1**	If **M0** scored then **SC1** for common denominator of $30k$ seen

2 $y = \frac{2}{x^2} + \frac{x^2}{2}$

Find the value of y when $x = 6$.
Give your answer as a mixed number in its simplest form.

Answer $y =$ ..... [2]

MARK SCHEME:

	$\frac{55}{30} + \frac{27}{30}$ oe **or** (1)$\frac{25}{30} + \frac{27}{30}$ oe	**M1**	for denominator of $30k$
	$\frac{82}{30}$ oe **or** (1)$\frac{52}{30}$ oe	**M1**	for denominator of $30k$ dependent on previous **M1**
	$2\frac{11}{15}$ **M2** must be scored	**A1**	If **M0** scored then **SC1** for common denominator of $30k$ seen

3 **Without using a calculator**, work out $2\frac{5}{8} \times \frac{3}{7}$.
Show all your working and give your answer as a mixed number in its lowest terms.

..... [3]

MARK SCHEME:

	$\frac{21}{8} \times \frac{3}{7}$ oe	**M1**	Must be shown
	$1\frac{1}{8}$ cao final answer	**A2**	**A1** for $\frac{9}{8}$ oe e.g. $\frac{63}{56}$

4 **Without using a calculator**, work out $1\frac{2}{3}+\frac{5}{7}$.

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

..... [3]

MARK SCHEME:

$\frac{14(\text{or}\,35)}{21}+\frac{15}{21}$	**M1**	accept $\frac{14k(\text{or}\,35k)}{21k}+\frac{15k}{21k}$
$2\frac{8}{21}$ cao	**A2**	or **A1** for $\frac{50}{21}$ or $1\frac{8}{21}$ or $\frac{29}{21}$ or $1\frac{29}{21}$

5 **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

6 **Without using a calculator**, work out $2\frac{1}{4} \div \frac{3}{7}$.

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

..... [3]

MARK SCHEME:

$\frac{9}{4} \times \frac{7}{3}$ or $\frac{63}{28} \div \frac{12}{28}$ oe with common denominator	**M2**	**B1** for $\frac{9}{4}$ oe seen or **M1** for *their* $\frac{9}{4} \times \frac{7}{3}$
$5\frac{1}{4}$ cao	**A1**	

7 Jiwan incorrectly wrote $1+\frac{1}{2}+\frac{1}{3}+\frac{1}{4}=1\frac{3}{9}$.

Show the correct working and write down the answer as a mixed number.

Answer ..... [3]

MARK SCHEME:

$2\frac{1}{12}$ cao **with correct working**	**3**	**M1** (1+)$\frac{6}{12}+\frac{4}{12}+\frac{3}{12}$ oe **A1** (1)$\frac{13}{12}$ or $\frac{25}{12}$ oe

7 **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:

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

8 **(a)** Write $\frac{11}{3}$ as a mixed number.

..... [1]

MARK SCHEME:

$3\frac{2}{3}$ cao	**1**

..... [3]

09 **Without using a calculator**, work out $3\frac{5}{8} - 1\frac{2}{3}$.

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

..... [3]

MARK SCHEME:

$\frac{29}{8}$ or $\frac{5}{3}$	$2\frac{5}{8} - \frac{2}{3}$	**M1**	Allow $\frac{29k}{8k}$ or $\frac{5k}{3k}$ Correct step for dealing with mixed numbers
$\frac{87}{24}$ and $\frac{40}{24}$	[2] $\frac{15}{24}$ and $\frac{16}{24}$	**M1**	Correct method to find common denominator e.g. $3\frac{15}{24}$ and $1\frac{16}{24}$
$1\frac{23}{24}$ cao		**A1**	

10 **Without using a calculator**, work out $4\frac{1}{8}-2\frac{5}{6}$.
You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

MARK SCHEME:

$\frac{33}{8}$ or $\frac{17}{6}$ $2\frac{1}{8}-\frac{5}{6}$	**B1**	Correct step for dealing with mixed numbers Allow $\frac{33k}{8k}$ or $\frac{17k}{6k}$
$\frac{99}{24}$ and $\frac{68}{24}$ $[2]\frac{3}{24}-\frac{20}{24}$	**M1**	Correct method to find common denominator e.g. $4\frac{3}{24}$ and $2\frac{20}{24}$
$1\frac{7}{24}$ cao and correct working	**A1**	