**Q1.**

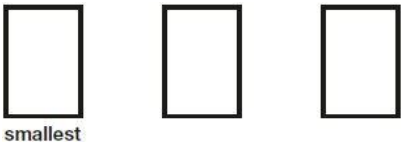
Write the two missing values to make these equivalent fractions correct.

$$\frac{\square}{30} = \frac{10}{12} = \frac{30}{\square}$$

2 marks

**Q2.** $\frac{6}{5}$ $\frac{3}{5}$ $\frac{3}{4}$

Write these fractions in order, starting with the **smallest**.




1 mark

**Q3.**

Is $\frac{4}{9}$ greater than $\frac{1}{3}$ ?

Circle **Yes** or **No**.

Yes / No

Show how you know.

1 mark

Is $\frac{4}{9}$ half of $\frac{8}{18}$ ?

Cirle **Yes** or **No**.

Yes / No

Show how you know.

1 mark

**Q4.**

Circle the fraction that is greater than $\frac{1}{2}$ but less than $\frac{3}{4}$

$\frac{7}{8}$ $\frac{2}{5}$ $\frac{1}{3}$ $\frac{5}{8}$ $\frac{3}{6}$

1 mark

**Q5.**

Two of the fractions below are **equivalent**.

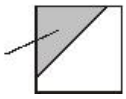
Circle them.

$\frac{2}{3}$ $\frac{6}{10}$ $\frac{9}{12}$ $\frac{10}{15}$ $\frac{16}{20}$

1 mark

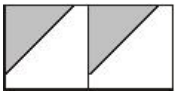
**Q6.**

$\frac{1}{3}$ of this square is shaded.

$\frac{1}{3}$ 

The same square is used in the diagrams below.

What fraction of this diagram is shaded?



1 mark

What fraction of this diagram is shaded?

1 mark

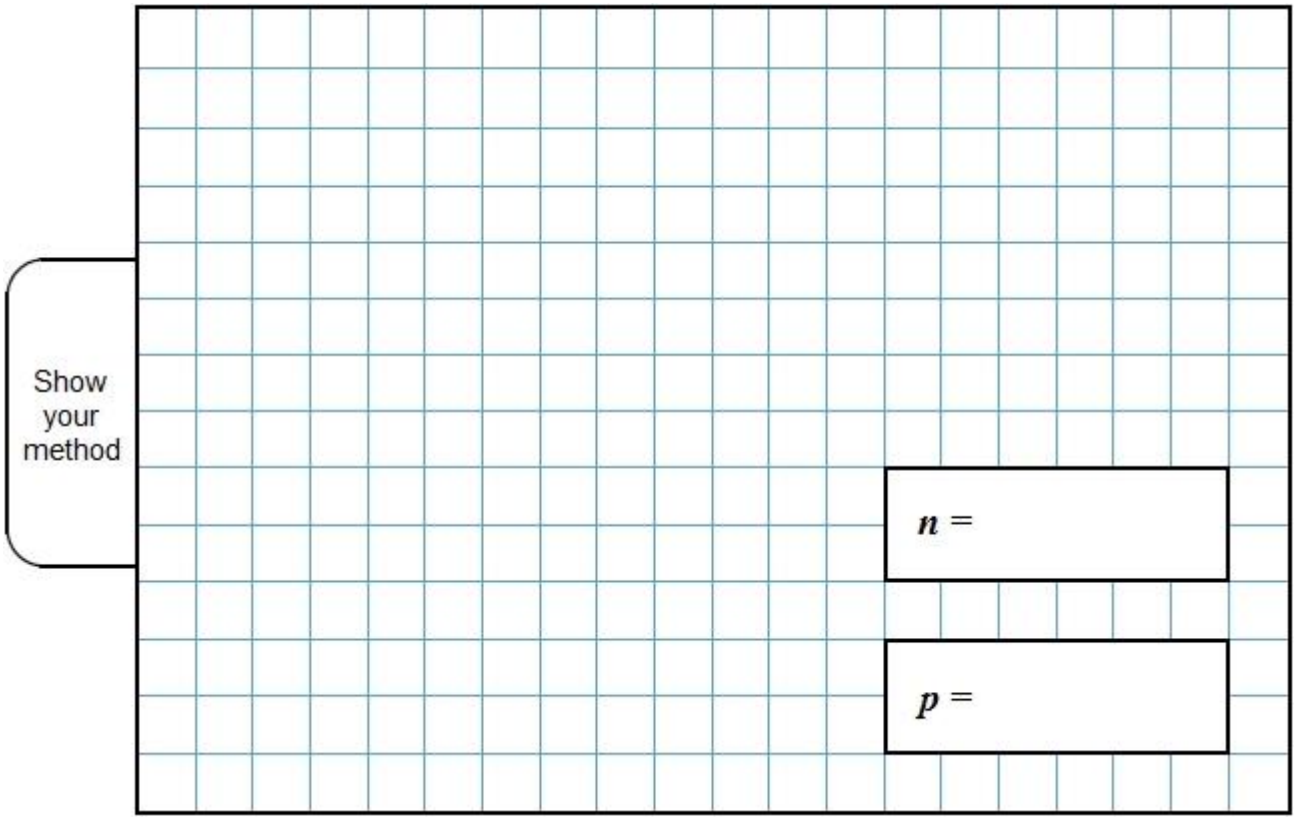
**Q7.**

$n$ and $p$ stand for two numbers.

$n$ is a multiple of 5
$p$ is a multiple of 6

$$\frac{n}{p} = \frac{2}{3}$$

Find numbers that $n$ and $p$ stand for.




2 marks

**Q8.**

Anna says $\frac{4}{7}$ is greater than $\frac{5}{9}$

Explain why Anna is correct.

1 mark

**Q1.**

$\frac{25}{30}$ **1**

$\frac{30}{36}$ **1**

**[2]**

**Q2.**

Fractions written in the correct order, as shown:

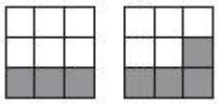
$\frac{3}{5}$ $\frac{3}{4}$ $\frac{6}{5}$

*Accept the fraction joined to the correct box, rather than written in it.*
***Do not** accept transcription errors or misreads for this question.*

**[1]**

**Q3.**

(a) Indicates **Yes** and gives a correct explanation, eg:

- $\frac{1}{3} = \frac{3}{9}, \frac{3}{9} < \frac{4}{9}$
- 
- $\frac{1}{3}$ of 9 is 3 not 4
- $\frac{4}{9}$ should be $\frac{1.333...}{3}$, not $\frac{1}{3}$
- 0.33... < 0.44...
- $\frac{1}{3} = \frac{4}{12}, \frac{4}{12} < \frac{4}{9}$
- $\frac{1}{3}$ of 27 = 9 and $\frac{4}{9}$ of 27 = 12

*Accept minimally acceptable explanation, eg:*

- $\frac{3}{9}$
- $\frac{9}{27}, \frac{12}{27}$
- *4 is over a third of 9*

- $\frac{1}{3}$ *of 9 is 3*
- $\frac{4}{9}$ *is closer to a half than a third*
- *0.33, 0.44*
- *It is one ninth bigger*
- *If you divide* $\frac{4}{9}$ *by a* $\frac{1}{3}$ *you get* $\frac{4}{3}$
- $\frac{4}{12}$

*! Inaccuracies in diagrams*

*Throughout the question, condone provided the pupil's intention to divide into thirds, ninths and/or eighteenths is clearly shown, and the correct sections are shaded*

*! Indicates* ***No****, or no decision made, but explanation clearly correct*

*Condone provided the explanation is more than minimal*

***Do not accept*** *incomplete or incorrect explanation, eg:*

- *If you draw a pie chart for* $\frac{4}{9}$ *, more than* $\frac{1}{3}$ *is shaded*
- *Put them into 27ths and* $\frac{4}{27} > \frac{1}{27}$
- $\frac{1}{3} \times 3 = \frac{3}{9}$

**1**
**U1**

(b) Indicates **No** and gives a correct explanation, eg:

- The fractions are equal; if you multiply the numerator and denominator by the same number the fractions are equivalent
- $\frac{4}{9} = \frac{8}{18}$
- $\frac{4}{9} \times 2 = \frac{8}{9}$ not $\frac{8}{18}$
- $\frac{8}{18} \div 2 = \frac{4}{18}$ which is $\frac{2}{9}$ not $\frac{4}{9}$
- To double the fraction, you don't double the numerator and the denominator, you just double the numerator
- To halve the fraction, you don't halve the denominator, only the numerator

*Accept minimally acceptable explanation, eg:*

- *Equal*
- *Equivalent*
- *Same*
- $\frac{4}{9}$ *is half of* $\frac{8}{9}$
- $\frac{4}{18}$ *is half of* $\frac{8}{18}$
- *You only double the top number*

- *You only halve the top number*

*! Indicates **Yes**, or no decision made, but explanation clearly correct*

*Condone provided the explanation is more than minimal*

***Do not accept** Incomplete explanation, eg*

- $\frac{4}{18}$ *is half of* $\frac{8}{18}$
- *If you double the top and the bottom number of* $\frac{4}{9}$ *you get* $\frac{4}{9}$ *is half of* $\frac{8}{9}$

**1**
**U1**

**[2]**

**Q4.**

Fraction circled as shown:

$\frac{7}{8}$ $\frac{2}{5}$ $\frac{1}{3}$ $\frac{5}{8}$ $\frac{3}{6}$

*Accept alternative unambiguous indications, eg fraction ticked, crossed or underlined.*

**[1]**

**Q5.**

Two fractions circled as shown:

$\frac{2}{3}$ $\frac{6}{10}$ $\frac{9}{12}$ $\frac{10}{15}$ $\frac{6}{20}$

***Do not** award the mark if additional incorrect fractions are circled.*

*Accept alternative unambiguous indications, eg fractions ticked, crossed or underlined.*

**[1]**

**Q6.**

(a) $\frac{1}{3}$

*Accept equivalent fractions or decimals.*

**1**

(b) $\frac{1}{9}$

*Accept equivalent fractions or decimals.*

**U1**

**[2]**

**Q7.**

Award marks as shown below for values of *n* and *p* which meet the following criteria:

| | ***n*:*p*** | |
|---|---|---|
| | **2:3** | **3:2** |
| ***n*** is multiple of **5** **and** ***p*** is multiple of **6** | 2 marks [A] | 1 mark [C] |
| ***n*** is multiple of **5** **or** ***p*** is multiple of **6** | 1 mark [B] | 0 marks |

The following examples are worth 2 marks:

- $n$ = 20 **and** $p$ = 30 [A]
- $n$ = 80 **and** $p$ = 120 [A]

*! For 2m or 1m, accept multiple answers provided all meet the requirements for the mark(s) and are clearly distinguishable as separate answers, eg for 2 marks*

- *$n$ = 20, 40, 60*
  *$p$ = 30, 60, 90*

**2**

***or***

The following examples are worth 1 mark:

- $n$ = 5 and $p$ = 7.5 [B]
- $n$ = 10 and $p$ = 15 [B]
- $n$ = 4 and $p$ = 6 [B]
- $n$ = 90 and $p$ = 60 [C]

**OR**

Shows or implies a method for rearranging $\frac{n}{p} = \frac{2}{3}$ which moves *p* from the denominator, eg:

- $3n = 2p$
- $n = \frac{2p}{3}$

**OR**

Shows or implies a complete correct method, eg:

- $2 \times 5 \times 6 \ : \ 3 \times 5 \times 6$

*! For 1m, condone a list of at least five additional ratios or fractions equivalent to* $\frac{2}{3}$ *with none incorrect*

**1**

**[2]**

**Q8.**

Gives a correct explanation that converts the given fractions to decimals **or** fractions with a common denominator / numerator **or** percentages, eg:

- $\frac{4}{7} = \frac{36}{63}$ but $\frac{5}{9} = \frac{35}{63}$
- 0.57142… > 0.55555
- Because there is a $\frac{1}{63}$ difference between the two

*For $\frac{4}{7}$ accept:*

- *0.57(...) **or** 57(. ...%)*

*For $\frac{5}{9}$ accept:*

- *0.56 **or** 0.55(...) **or** 56(%) **or** 55(. ...%)*

*Accept minimally acceptable explanations, eg:*

- $\frac{36}{63}$ $\frac{35}{63}$
- *0.56 0.57*

***Do not accept** incomplete explanations that fail to convert both fractions to a common format, eg:*

- $\frac{4}{7}$ *is 0.57 so it is bigger*
- *9ths are smaller than 7ths and there is only one more 9th*

*than 7th so $\frac{4}{7}$ is greater*

*! Condone method of conversion incorrectly expressed in an otherwise correct explanation, eg:*

- $\frac{4}{7} \times 9 = \frac{36}{63}$

**[1]**