1 How many quarters are there in $2\frac{3}{4}$?

quarters

1 mark

2 Complete these fractions to make each equivalent to $\frac{3}{5}$

$\frac{\square}{10}$ $\frac{\square}{15}$ $\frac{12}{\square}$

1 mark

3 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

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

Circle them.

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

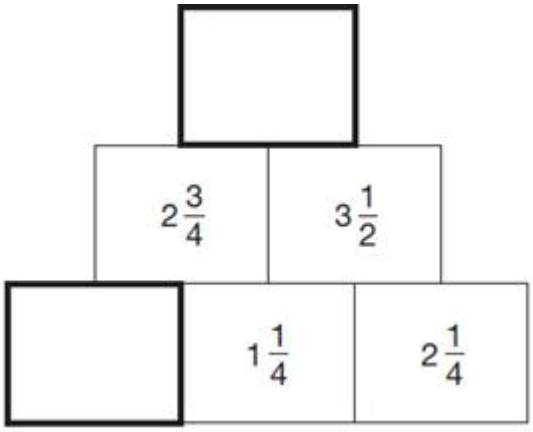
1 mark

5 $\frac{1}{9} + \frac{1}{3} =$

1 mark

6 In this diagram, the number in each box is the **sum** of the two numbers below it.

Write the missing numbers.



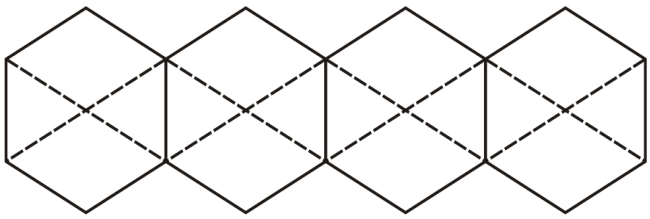
2 marks

7 $\frac{5}{6} - \frac{2}{3} =$

1 mark

8 This diagram shows four regular hexagons.

Shade in **one third** of the diagram.



1 mark

9 $1\frac{1}{4} \times 4 =$

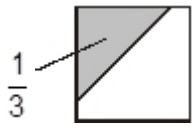
1 mark

10 Calculate $\frac{7}{16}$ **of 288**

Answer: ☐

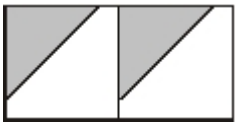
1 mark

11 $\frac{1}{3}$ of this square is shaded.



The same square is used in the diagrams below.

What fraction of this diagram is shaded?



Answer: ☐

1 mark

What fraction of this diagram is shaded?

Answer: ☐

1 mark

12 Calculate $\frac{7}{8}$ **of 5000**

Answer: ☐

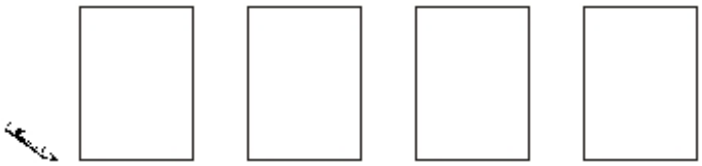
1 mark

13 Calculate of $\frac{5}{12}$ of **378**

1 mark

14 Write these fractions in order of size starting with the smallest.

$\frac{3}{4}$ $\frac{3}{5}$ $\frac{9}{10}$ $\frac{17}{20}$



smallest

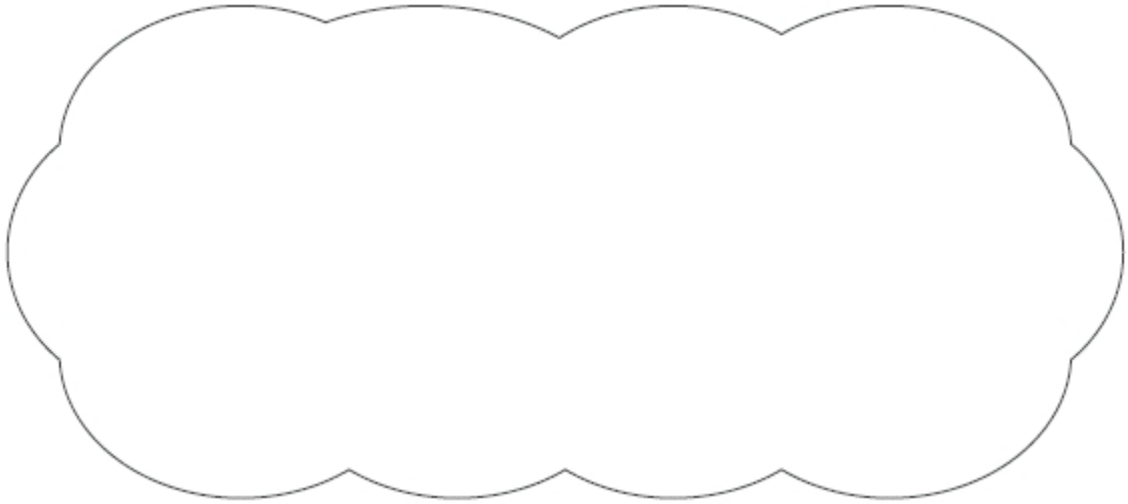
1 mark

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

Circle Yes or No.

Yes / No

Show how you know.



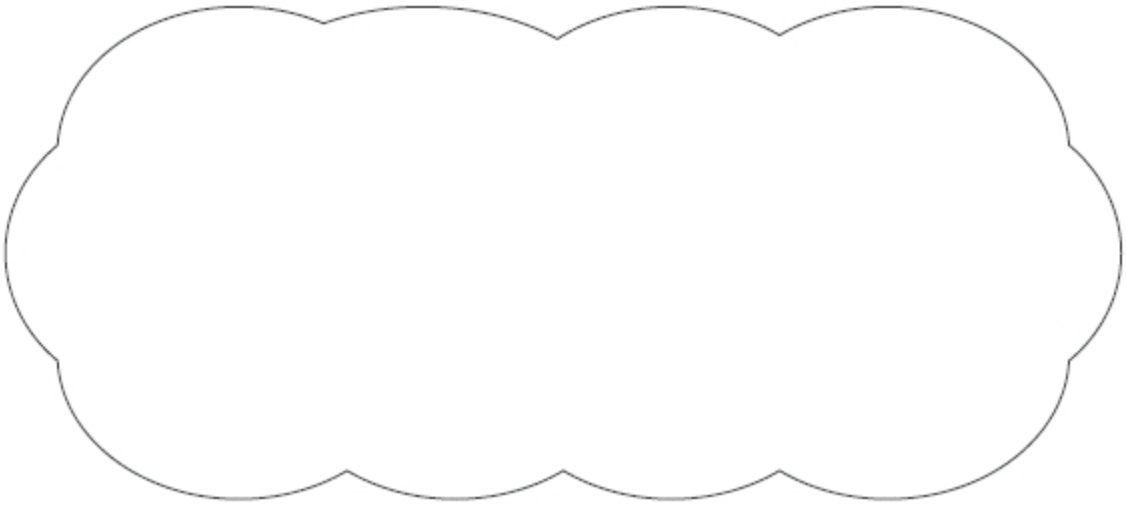
1 mark

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

Circle Yes or No.

Yes / No

Show how you know.



1 mark

16 (a) Write numbers in the boxes to make this fraction calculation correct.

$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

1 mark

(b) Now write two **different** numbers to make the calculation correct.

$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

1 mark

Mark schemes

1 11 quarters

[1]

2 Fractions completed as shown below:

$\frac{\boxed{6}}{10}$ $\frac{\boxed{9}}{15}$ $\frac{12}{\boxed{20}}$

All three fractions must be correct for the award of the mark.

[1]

3 Fraction circled as shown:

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

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

[1]

4 Two fractions circled as shown:

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

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

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

[1]

5 $\frac{4}{9}$

[1]

6 (a) $6\frac{1}{4}$

Accept equivalent fractions.

***Do not** accept* $5\frac{5}{4}$

1

(b) $1\frac{1}{2}$

Accept equivalent fractions, eg

$1\frac{2}{4}$, $\frac{3}{2}$, *1.5, 150%*

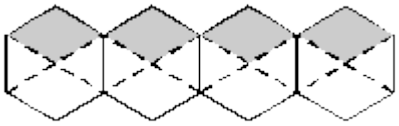
1

[2]

7 $\frac{1}{6}$

[1]

8 Equivalent of one third of each hexagon shaded, or a total of $1\frac{1}{3}$ hexagons shaded, eg



Accept part shapes shaded as long as the intention is clear.

Accept inaccuracies in shading provided the intention is clear.

[1]

9 5

[1]

10 126

[1]

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

Accept equivalent fractions or decimals.

1

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

Accept equivalent fractions or decimals.

U1

[2]

12 4375

[1]

13 157.5 **OR** 157½

[1]

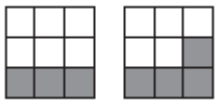
14 $\frac{3}{5}$ $\frac{3}{4}$ $\frac{17}{20}$ $\frac{9}{10}$

Fractions must be written in the correct order for the award of the mark.

Accept equivalent fractions or decimals.

[1]

15 (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*

- *If you double the top and the bottom number of* $\frac{4}{9}$ *,*

  you get $\frac{8}{18}$

1
U1

[2]

16 (a) Gives a pair of numbers to make the calculation correct, eg:

- $\frac{1}{\boxed{2}} + \frac{\boxed{1}}{5}$
- $\frac{1}{\boxed{10}} + \frac{\boxed{3}}{5}$

Accept the following

- $\frac{1}{\boxed{-10}} + \frac{\boxed{4}}{5}$
- $\frac{1}{\boxed{-2}} + \frac{\boxed{6}}{5}$

Do not accept *use of non-integers, eg:*

- $\frac{1}{\boxed{3.33...}} + \frac{\boxed{2}}{5}$

1

(b) Gives a **different** pair of numbers to make the calculation correct

1

[2]