

Step 1. Cut up the test questions and ask someone in your house to hide them in tricky places. If you don't have a printer, you can write out the questions onto a piece of paper instead.

Step 2. The person who hides your questions will also need to write you some clues on the treasure tags at the end of this document. These will help you to find the location of your next question.

Step 3. Grab a pen or pencil and piece of paper to answer each question.

Step 4. If you'd like a further challenge, why not set yourself a time limit to find all of the questions and answer them correctly?

Step 5. Off you go! Good luck finding each question!



6

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

Write the missing numbers.



2 marks



1 mark



9

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

7

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

This diagram shows four regular hexagons.

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



1 mark







1 mark



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



The same square is used in the diagrams below.

What fraction of this diagram is shaded?





What fraction of this diagram is shaded?





1 mark

1 mark







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

Circle Yes or No.



Mark schemes

|--|

2

11 quarters

Fractions completed as shown below:





[1]

[1]

[1]



Fraction circled as shown: $\frac{7}{8}$ $\frac{2}{5}$ $\frac{1}{3}$ $(\frac{5}{8})$

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

3 6



Two fractions circled as shown:

2	б	9		б
3	10	12	ন্দ্র	20

Do not award the mark if additional incorrect fractions are circled. Accept alternative unambiguous indications, eg fractions ticked, crossed or underlined.

[1]

[1]

5 $\frac{4}{9}$ **6** (a) $6\frac{1}{4}$

Accept equivalent fractions.

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

1





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

Accept equivalent fractions or decimals.

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





• $\frac{1}{3}$ 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, eq:

- 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
 - $\frac{4}{9} = \frac{8}{18}$

•
$$\frac{4}{9} \times 2 = \frac{8}{9} \text{ not } \frac{8}{18}$$

•
$$\frac{8}{18} \div 2 = \frac{4}{18}$$
 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:
 - <u>1</u> + <u>1</u> 2 + <u>5</u>
 - <u>1</u> 10 + <u>3</u> 5

Accept the following

•
$$\frac{1}{-10} + \frac{4}{5}$$

Do not accept use of non-integers, eg:

1

1

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































