

Extension (Test Base)

Q1.

In a class, 18 of the children are girls.

A quarter of the children in the class are boys.

Altogether, how many children are there in the class?

Show your method

2 marks

Q2.

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

$$\frac{\square}{10}$$

$$\frac{\square}{15}$$

$$\frac{12}{\square}$$

1 mark

Q3.

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

Q4.

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

$$\frac{\boxed{}}{30}$$

=

$$\frac{10}{12}$$

=

$$\frac{30}{\boxed{}}$$

2 marks

Q5.

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

Circle them.

$$\frac{2}{3}$$

$$\frac{6}{10}$$

$$\frac{9}{12}$$

$$\frac{10}{15}$$

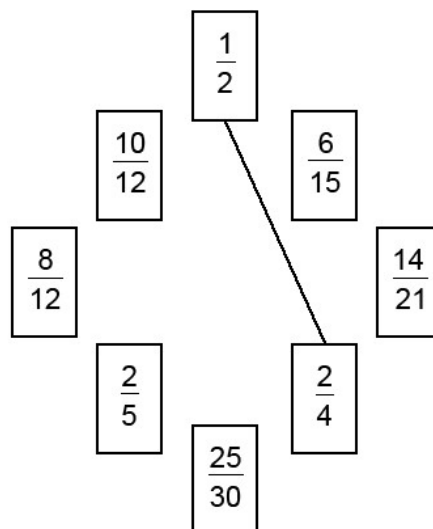
$$\frac{16}{20}$$

1 mark

Q6.

Join pairs of equivalent fractions.

One is done for you.

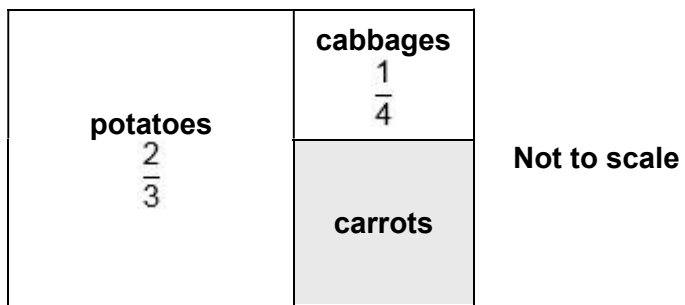


1 mark

Q7.

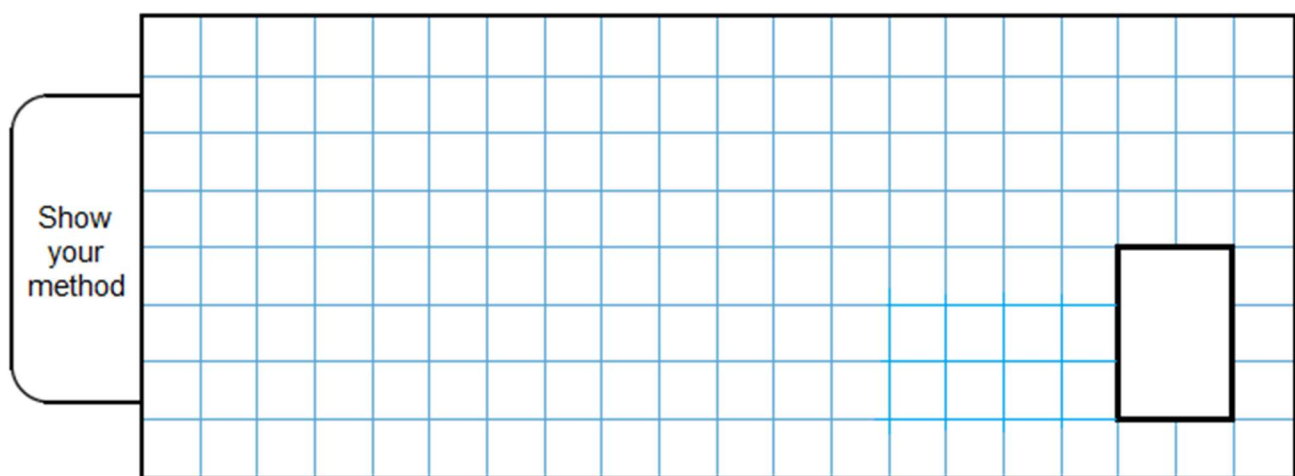
This is a diagram of a vegetable garden.

It shows the fractions of the garden planted with potatoes and cabbages.



The remaining area is planted with carrots.

What **fraction** of the garden is planted with carrots?



2 marks

Mark schemes

[1]

Q1.

Award **TWO** marks for the correct answer of 24

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- $18 \div 3 \times 4 =$ wrong answer

OR

- $18 \div 3 = 6$

$6 + 18 =$ wrong answer

*Working must be carried through to reach an answer for the award of **ONE** mark.*

OR

- a 'trial and improvement' method, eg

$$18 \text{ girls} + 14 \text{ boys} = 32 \quad 32 \div 4 = 8$$

$$18 \text{ girls} + 10 \text{ boys} = 28 \quad 28 \div 4 = 7$$

$$18 \text{ girls} + 4 \text{ boys} = 22 \quad 22 \div 4 =$$

*A 'trial and improvement' method must show evidence of improvement, but a final answer need not be reached for the award of **ONE** mark.*

Up to 2
U1

[2]

Q2.

Fractions completed as shown below:

$$\begin{array}{ccc} \boxed{6} & & \boxed{9} \\ \hline 10 & & 15 \\ & & \boxed{20} \\ & & \hline & & 12 \end{array}$$

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

[1]

Q3.

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

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

Accept equivalent fractions or decimals.

Q4.

$$\frac{25}{30}$$

1

$$\frac{30}{36}$$

1

[2]

Q5.

Two fractions circled as shown:

$$\left(\frac{2}{3}\right) \quad \frac{6}{10} \quad \frac{9}{12} \quad \left(\frac{10}{15}\right) \quad \frac{6}{20}$$

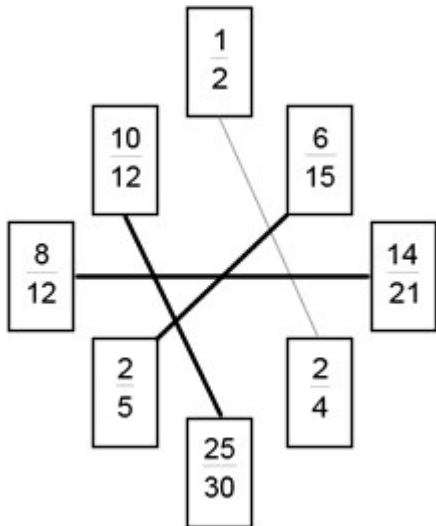
Do not award the mark if additional incorrect fractions are circled.

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

[1]

Q6.

Award **TWO** marks for three correct pairs joined, as shown.



Award **ONE** mark for any two correct pairs joined.

[2]

Q7.

Award **TWO** marks for the correct answer of $\frac{1}{12}$ or an equivalent fraction.

If the answer is incorrect, award **ONE** mark for:

- sight of $\frac{11}{12}$

OR

- evidence of appropriate method, e.g.

- $\frac{2}{3} + \frac{1}{4}$

- $\frac{8}{12} + \frac{3}{12} = \frac{10}{12}$ (error)

- $1 - \frac{10}{12} =$

- $1 - \frac{2}{3} - \frac{1}{4} =$

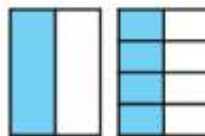
*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

Varied Fluency

Take two pieces of paper the same size. Fold one piece into two equal pieces. Fold the other into eight equal pieces. What equivalent fractions can you find?

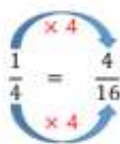
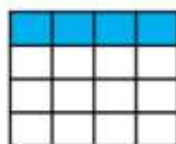


$$\frac{1}{2} = \frac{4}{8}$$

Use the models to write equivalent fractions.



Eva uses the models and her multiplication and division skills to find equivalent fractions.



Use this method to find equivalent fractions to $\frac{2}{4}$, $\frac{3}{4}$ and $\frac{4}{4}$ where the denominator is 16

Eva uses the same approach to find equivalent fractions for these fractions. How will her method change?

5 $\frac{4}{12} = \frac{\square}{3}$ $\frac{6}{12} = \frac{\square}{4}$ $\frac{6}{12} = \frac{\square}{2}$

Reasoning and Problem Solving

Rosie says,



To find equivalent fractions, whatever you do to the numerator, you do to the denominator.

Using her method, here are the equivalent fractions Rosie has found for $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16} \quad \frac{4}{8} = \frac{6}{10}$$

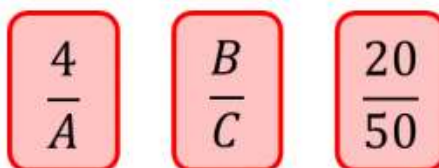
$$\frac{4}{8} = \frac{2}{4} \quad \frac{4}{8} = \frac{1}{5}$$

Are all Rosie's fractions equivalent?
Does Rosie's method work?
Explain your reasons.

Ron thinks you can only simplify even numbered fractions because you keep on halving the numerator and denominator until you get an odd number.

Do you agree?
Explain your answer.

Here are some fraction cards. All of the fractions are equivalent.



$A + B = 16$
Calculate the value of C.