

Reasoning and Problem Solving

Step 4: Recognise a Quarter

National Curriculum Objectives:

Mathematics Year 2: (2F1a) [Recognise, find, name and write fractions \$1/3\$, \$1/4\$, \$2/4\$ and \$3/4\$ of a length, shape, set of objects or quantity](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain which shape (using circles and squares) has one quarter shaded.

Expected Explain which shape (using circles, triangles and quadrilaterals) has one quarter shaded.

Greater Depth Explain which shape (using circles and polygons) does and does not have one quarter shaded.

Questions 2, 5 and 8 (Problem Solving)

Developing Shade parts of four given shapes to show different ways to represent one quarter. Using circles and squares divided into 4 equal parts.

Expected Shade parts of four given shapes to show different ways to represent one quarter. Using triangles and quadrilaterals divided into 4 equal parts.

Greater Depth Shade parts of four given shapes to show different ways to represent one quarter. Using polygons divided into 4 equal parts.

Questions 3, 6 and 9 (Reasoning)

Developing Explain which is the odd one out (using circles and squares).

Expected Explain which is the odd one out (using circles, triangles and quadrilaterals).

Greater Depth Explain which is the odd one out (using circles and polygons).

More [Year 2 Fractions](#) resources.

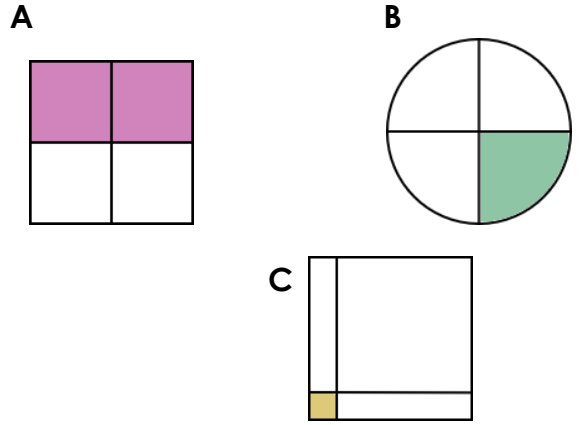
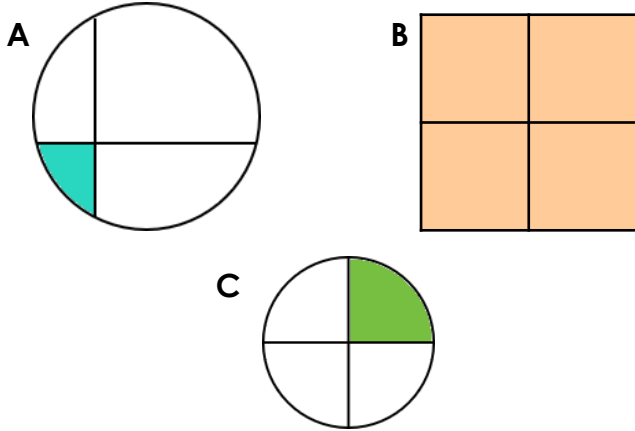
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Recognise a Quarter

Recognise a Quarter

1a. Circle the shape that has $\frac{1}{4}$ shaded.

1b. Circle the shape that has $\frac{1}{4}$ shaded.



Explain how you know.

R

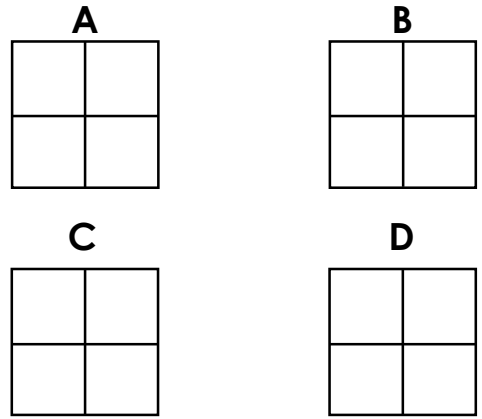
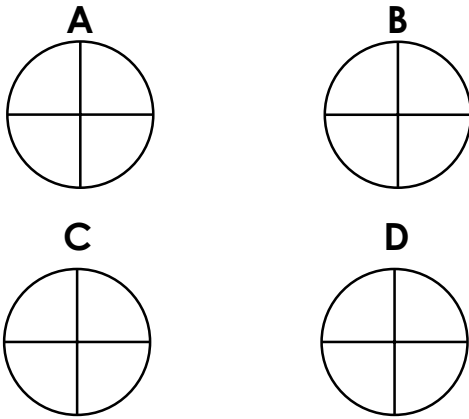


Explain how you know.

R

2a. Shade part of each shape below to represent $\frac{1}{4}$.

2b. Shade part of each shape below to represent $\frac{1}{4}$.



Find four different solutions.

PS

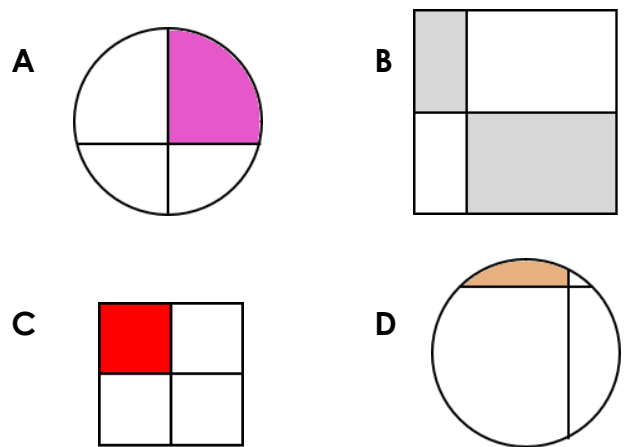
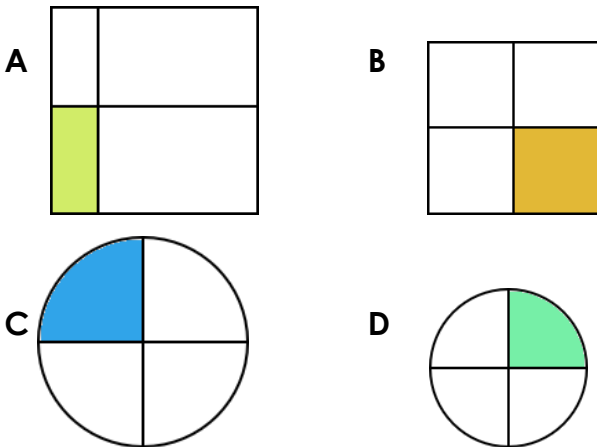


Find four different solutions.

PS

3a. Which is the odd one out?

3b. Which is the odd one out?



Explain why.

R



Explain why.

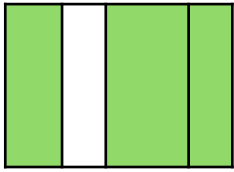
R

Recognise a Quarter

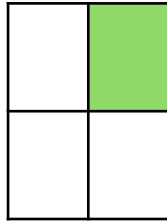
Recognise a Quarter

4a. Circle the shape that has $\frac{1}{4}$ shaded.

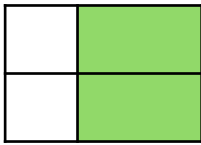
A



B



C

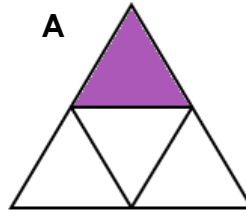


Explain how you know.

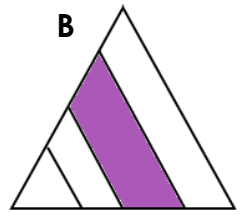
R

4b. Circle the shape that has $\frac{1}{4}$ shaded.

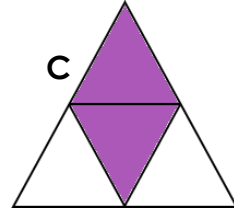
A



B



C

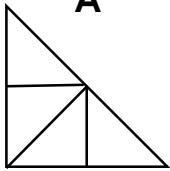


Explain how you know.

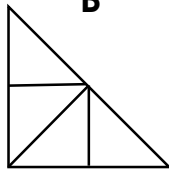
R

5a. Shade part of each shape below to represent $\frac{1}{4}$.

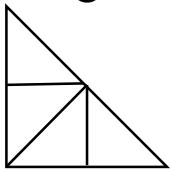
A



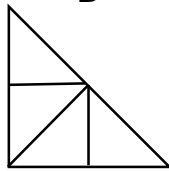
B



C



D

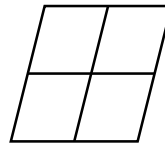


Find four different solutions.

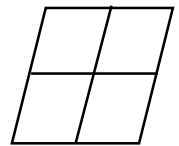
PS

5b. Shade part of each shape below to represent $\frac{1}{4}$.

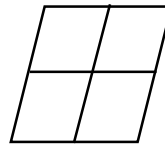
A



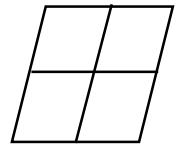
B



C



D

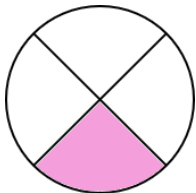


Find four different solutions.

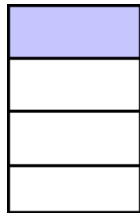
PS

6a. Which is the odd one out?

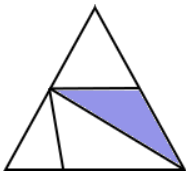
A



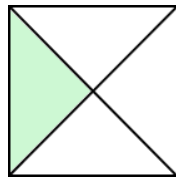
B



C



D

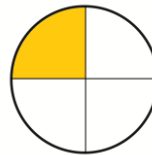


Explain why.

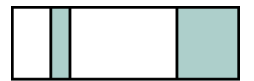
R

6b. Which is the odd one out?

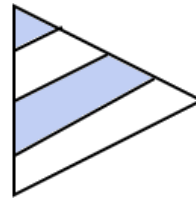
A



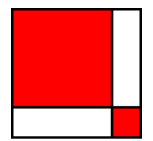
B



C



D



Explain why.

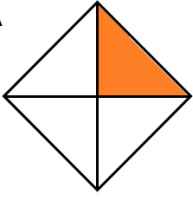
R

Recognise a Quarter

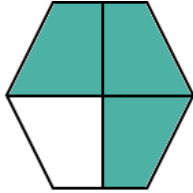
Recognise a Quarter

7a. Circle the shape that shows $\frac{1}{4}$.

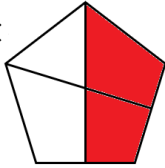
A



B



C

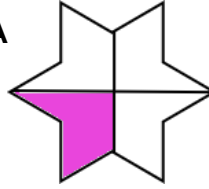


Explain how you know.

R

7b. Circle the shapes that don't show $\frac{1}{4}$.

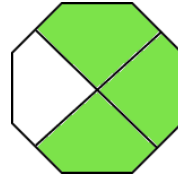
A



B



C

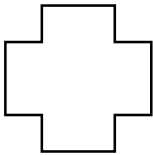


Explain how you know.

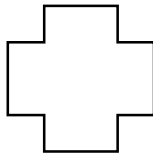
R

8a. Divide the shapes below into four equal parts and shade $\frac{1}{4}$.

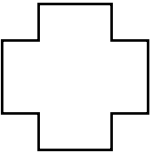
A



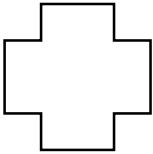
B



C



D

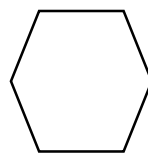


Find four different solutions.

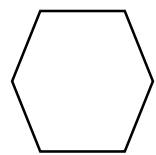
PS

8b. Divide the shapes below into four equal parts and shade $\frac{1}{4}$.

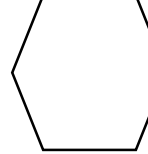
A



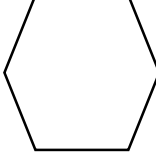
B



C



D

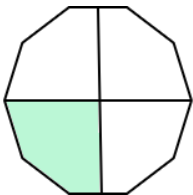


Find four different solutions.

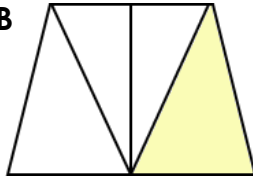
PS

9a. Which is the odd one out?

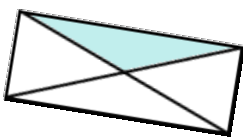
A



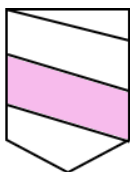
B



C



D

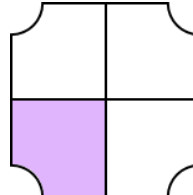


Explain why.

R

9b. Which is the odd one out?

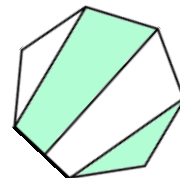
A



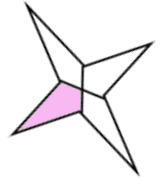
B



C



D



Explain why.

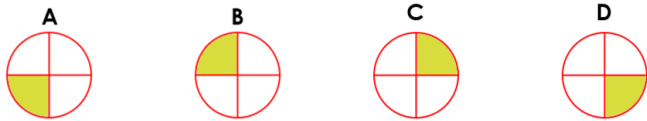
R

Reasoning and Problem Solving Recognise a Quarter

Developing

1a. Shape C should be circled because it is the only shape that has four equal parts including one shaded part.

2a. Various answers, for example:

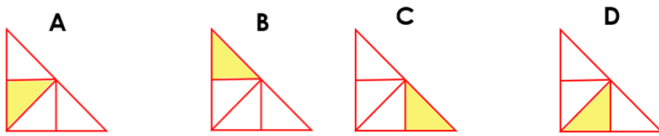


3a. Various answers, for example: A because it is the only shape which has been divided into four unequal parts.

Expected

4a. Shape B should be circled because it is the only shape that has four equal parts including one shaded part.

5a. Various answers, for example:

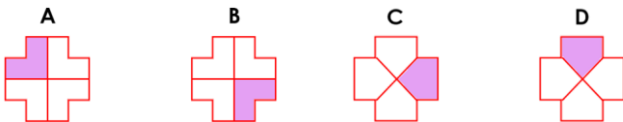


6a. Various answers, for example: C because it is the only shape that has not been divided into four equal parts.

Greater Depth

7a. Two possible answers depending on whether the shaded/unshaded part of a shape is being described. For example: If using shaded parts, shape A shows $\frac{1}{4}$. If using unshaded parts, shape B shows $\frac{1}{4}$.

8a. Various answers, for example:



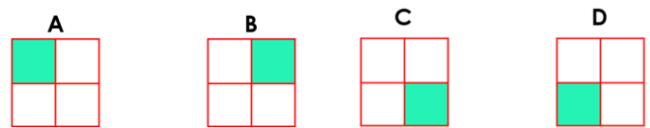
9a. Various answers, for example: A because it is the only shape that has been divided into four equal parts and therefore, it is the only shape that has $\frac{1}{4}$ shaded in.

Reasoning and Problem Solving Recognise a Quarter

Developing

1b. Shape B should be circled because it is the only shape that has four equal parts including one shaded part.

2b. Various answers, for example:



3b. Various answers, for example: C because it is the only shape which has been divided into four equal parts.

Expected

4b. Shape A should be circled because it has four equal parts including one shaded part. Shape C has also been divided into four equal parts, however two parts have been shaded.

5b. Various answers, for example:



6b. Various answers, for example: A because it is the only shape that has been divided into four equal parts.

Greater Depth

7b. Two possible answers depending on whether the shaded/unshaded part of a shape is being described. For example: If using shaded parts, shapes B and C do not show $\frac{1}{4}$. If using unshaded parts, shapes A and B don't show $\frac{1}{4}$.

8b. Various answers, for example:



9b. Various answers, for example: C because it is the only shape that has been divided into four unequal parts.