

**KS2
SATS
MATHS**

REVISION WORKBOOK

MATHEMATICS

**YEAR 6
AGE 10–11**

EXPECTED STANDARD

Achieve



 **hachette**
LEARNING

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3-D shapes

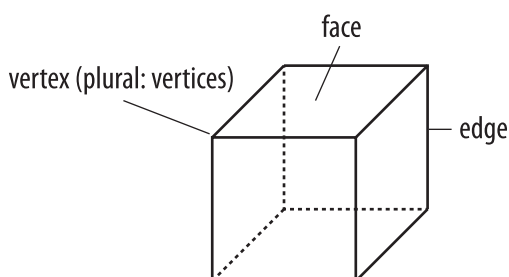
To achieve the expected standard, you need to:

- ★ recognise properties of 3-D shapes – **faces**, **edges** and **vertices**
- ★ recognise and describe simple 3-D shapes
- ★ use **nets** and other 2-D representations of simple 3-D shapes.

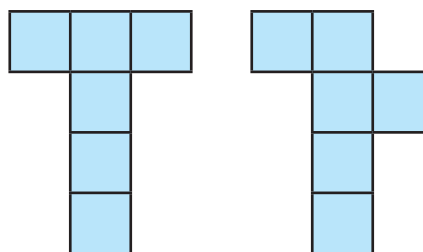


What you need to know

- Each surface or side of a 3-D shape is called a **face**.
Pairs of faces meet at an **edge**.
Edges meet at a **vertex**.

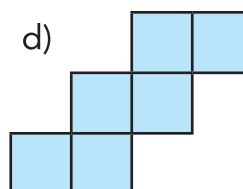
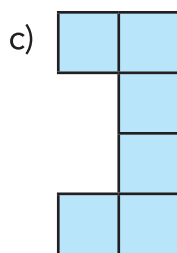
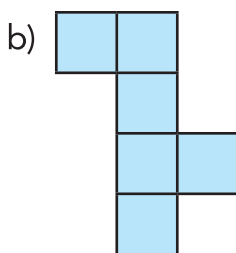
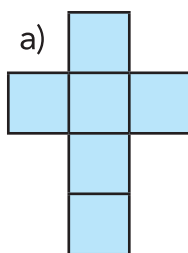


- A **net** is an unfolded 3-D shape laid flat. There may be more than one way of creating a net for a 3-D shape. These are both nets for a cube.



Let's practise

Circle the net that does **not** fold to create a cube.



1

Read the question and read it again.
What is it asking?

2

Visualise a cube. Consider each option. If you pin one square down, could you fold up the other squares to create a cube?

3

What is your answer? Double check it.

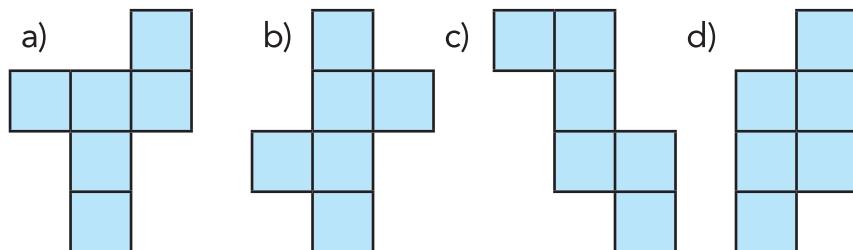
One of the four nets does not make a cube.
I have to decide which one.

This works for all but net c). Here, the four middle squares wrap around, but the other two are on the same side.

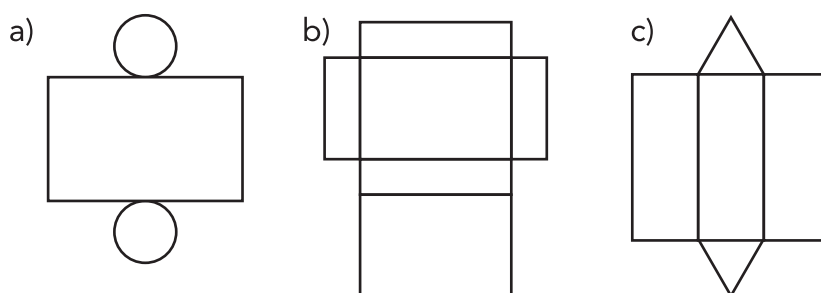
I will circle net c).

Try this

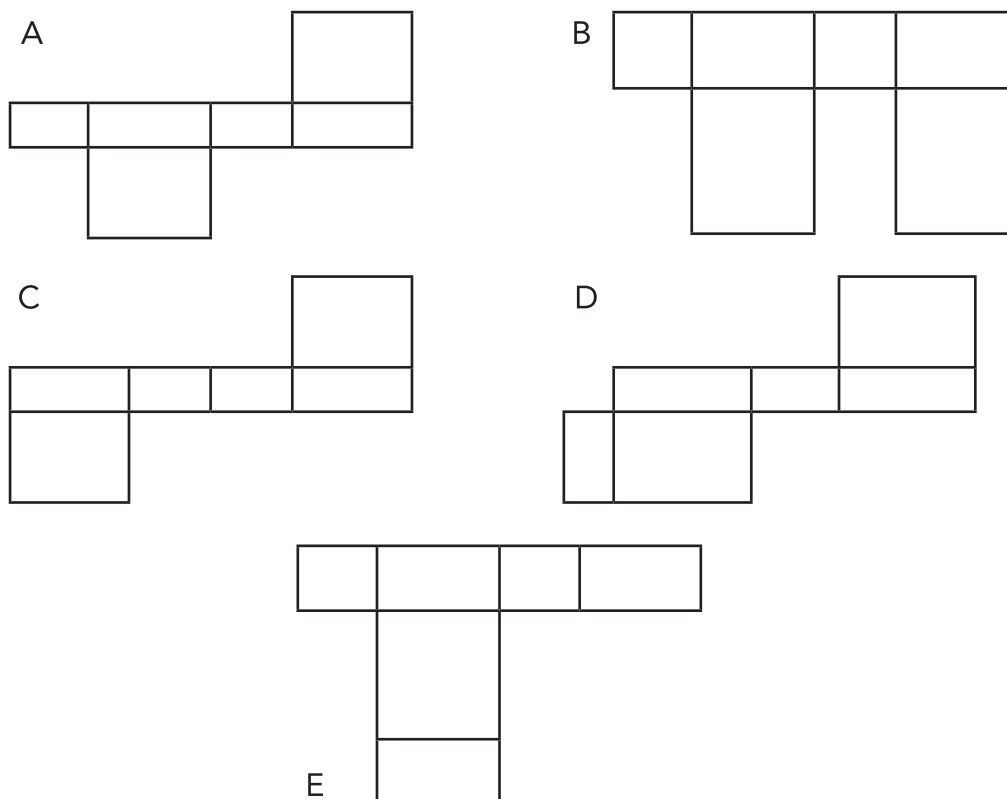
1 Circle the net that does **not** fold to create a cube.



2 Identify these 3-D shapes from their 2-D representations.



3 Tick any nets of a cuboid.



Top tip

- Ensure you haven't 'forgotten' a face that may be hidden from view when counting.

Reflections

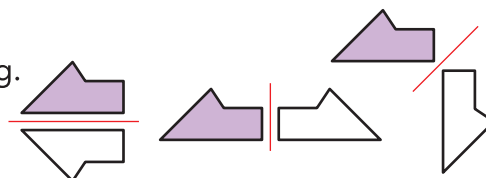
To achieve the expected standard, you need to:

- ★ identify, describe and represent the position of a shape following a reflection.



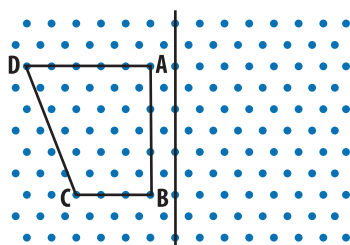
What you need to know

- A **reflection** flips a shape. There is no turning or sliding.
- To reflect a shape you need a **mirror line**.
- Mirror lines can be horizontal, vertical or diagonal.



Let's practise

Draw a reflection of this shape in the mirror line.



1

Read the question and read it again.
What is it asking?

2

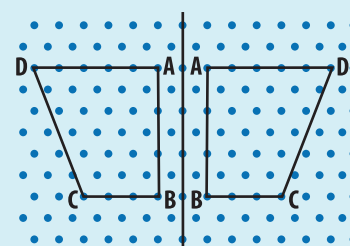
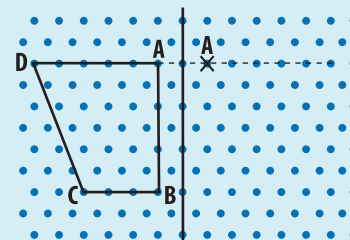
Notice where each corner is positioned. In the reflected shape, each corner will be the same distance from the mirror but on the other side of the mirror line.

3

Repeat this for the other points. Then use a ruler to join the corners. Check that the sides are all the same length as in the original shape.

Reflect the shape in the mirror line.

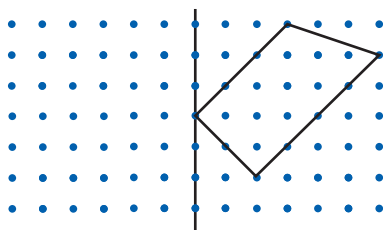
Corner A is one dot away from the mirror line.
Corner D is on the same line.



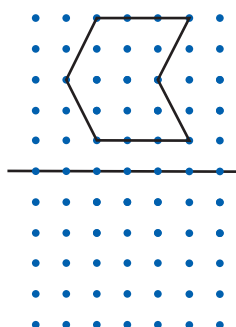
Try this

Reflect these shapes in the mirror lines.

1



2



Top tip

- Try using a mirror to check the reflection is accurate.