

Y5 3d Shapes From 2d

KS2 Y5 Maths · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

A net has 2 triangles and 3 rectangles. What shape does it make?

Step 1 · The triangles are opposite each other
they are the two ends

Step 2 · The rectangles join the ends
they make the sides

Answer: A triangular prism

Check: A triangular prism has 5 faces, 9 edges and 6 vertices ✓

2. Now try one with the steps

How many faces, edges and vertices does a cube have?

Step 1 · Faces: top, bottom and four sides

Step 2 · Edges: 4 on top, 4 on the bottom, 4 upright

Step 3 · Vertices: 4 on top, 4 on the bottom

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. How many faces does a cuboid have?

2. What 2D shape are all the faces of a cube?

3. A net is made of one square and four triangles. What shape does it make?

4. A net is made of a rectangle and two circles. What shape does it make?

5. How many vertices does a square-based pyramid have?

6. How many edges does a triangular prism have?

7. A net has 4 equal triangles. What shape does it make?

8. Which 3D shape looks like a circle from above and a triangle from the side?

9. A shape has 2 hexagon faces and 6 rectangle faces. What is it called?

10. How many faces does a pentagonal prism have?

11. A cuboid is 4 cm long, 3 cm wide and 2 cm tall. How many of its faces are 4 cm by 3 cm rectangles?

12. Draw two different nets of a cube on squared paper. How many squares does each use?

13. A 2 by 3 rectangle of six squares is folded. Is it a net of a cube? Write yes or no.

14. Faces + vertices – edges for a cube is $6 + 8 - 12$. Work out the answer, then check it for a square-based pyramid.

4. Before you hand it in

Thinking any 6 squares joined together make a cube net.

Picture each fold. Squares must not overlap and there must be a top and a bottom. Six squares in a row, or a 2 by 3 rectangle, do not work.

Counting only the edges you can see in a drawing.

Drawings hide edges. Use a real shape, or count systematically: top, bottom, then the edges joining them.

Calling a square-based pyramid a triangular prism.

Look at all the faces. A pyramid has one base and triangles that meet at an apex; a prism has two matching ends joined by rectangles.