

Y6 3d Shapes Nets

KS2 Y6 Maths · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

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

Step 1 · Faces: top, bottom, front, back, left, right

6 rectangles

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

12

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

8

Answer: 6 faces, 12 edges, 8 vertices

Check: Faces + vertices – edges = $6 + 8 - 12 = 2$ ✓

2. Now try one with the steps

Describe a triangular prism.

Step 1 · Two identical triangle ends

Step 2 · Joined by rectangles

Step 3 · Edges: $3 + 3 + 3$; vertices: $3 + 3$

Answer:

3. Practice

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

1. How many faces does a cube have?

2. How many edges does a cube have?

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

4. How many faces does a triangular prism have?

5. What shapes are the faces of a triangular prism?

6. A net is made of 2 circles and a rectangle. What 3D shape does it make?

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

8. How many faces does a tetrahedron (triangular-based pyramid) have?

9. How many edges does a triangular prism have?

10. For a cube, work out faces + vertices – edges.

11. How many faces does a pentagonal prism have?

12. How many squares are in the net of a cube?

13. Can a row of 6 squares fold into a cube? Explain.

14. On a dice, opposite faces add up to 7. Which number is opposite 2?

15. A cuboid measures 4 cm $\times$ 3 cm $\times$ 2 cm. How many of the rectangles in its net measure 4 cm by 3 cm?

4. Before you hand it in

Thinking any 6 squares joined together make a cube net.

Check for overlaps: 5 in a row, or a 2×2 block, will never work. There are exactly 11 different cube nets.

Counting only the edges you can see in a drawing.

Use a real model, or count systematically: edges around the top, around the bottom, and joining them.

Calling a cube or cuboid face a 'side' and mixing up faces and edges.

A face is a flat surface, an edge is where two faces meet, and a vertex is a corner.