GCSE Maths: Nets of solids (Higher): worksheet

GCSE Maths - Volume, Surface Area and 3D Shapes - Higher - Lesson 19.2

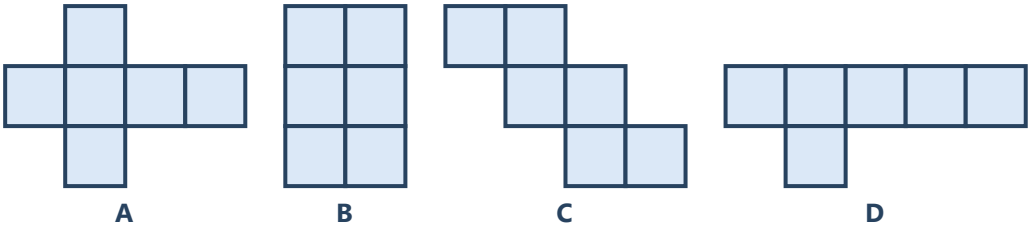
Name: _____ Date: _____ Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at **websink.site/gcse/maths/ch19-volume-surface-area-3d/higher/nets-of-solids/**

Exercise 19B Nets of solids

Non-calculator

1 Each of these nets is made from six squares. Decide whether each net folds to make a cube.



(a) Net A

Answer: .....

(b) Net B

Answer: .....

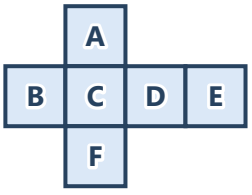
(c) Net C

Answer: .....

(d) Net D

Answer: .....

2 The net of a cube is folded up. The squares are labelled A to F. Write down the letter of the face opposite each face.



(a) Opposite face A

Answer: .....

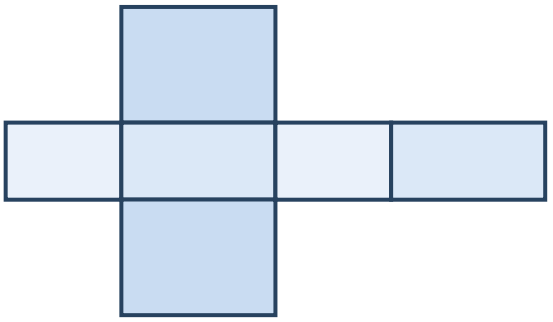
(b) Opposite face B

Answer: .....

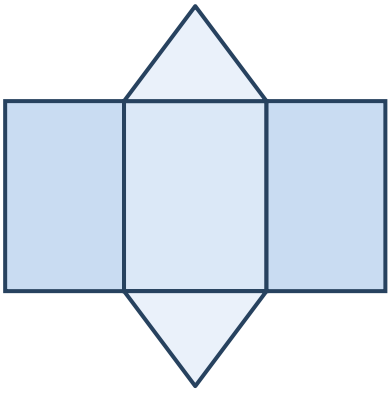
(c) Opposite face F

Answer: .....

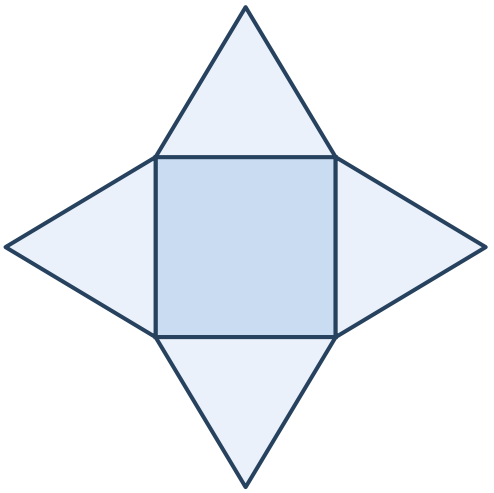
3 Write down the name of the solid that each net makes.



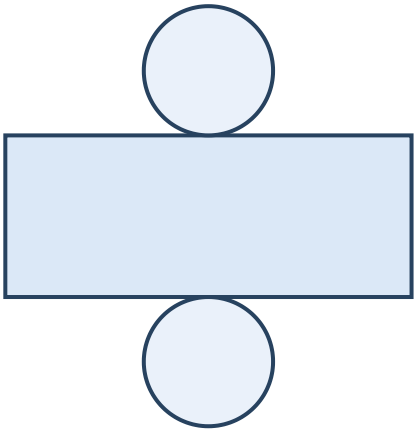
A



B



C



D

(a) Net A

Answer:

(b) Net B

Answer:

(c) Net C

Answer:

(d) Net D

Answer:

4 **Write down how many of each shape are in the net of the solid.**

(a) a triangular prism: how many triangles and how many rectangles?

Answer:

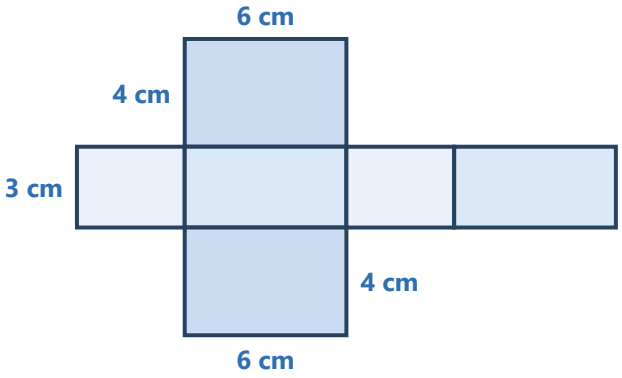
(b) a square-based pyramid: how many squares and how many triangles?

Answer:

(c) a pentagonal prism: how many pentagons and how many rectangles?

Answer:

5 **The net of a cuboid is shown. Work out the total area of the net.**

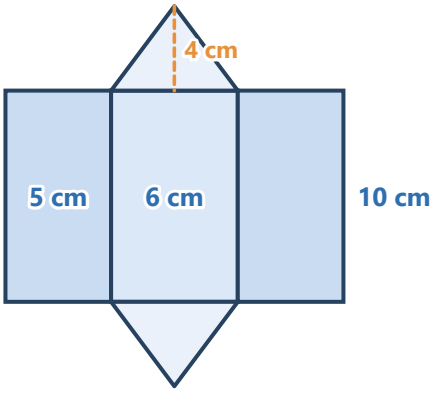


Answer:

6 **A cube has edges of length 5 cm. Work out the total area of its net.**

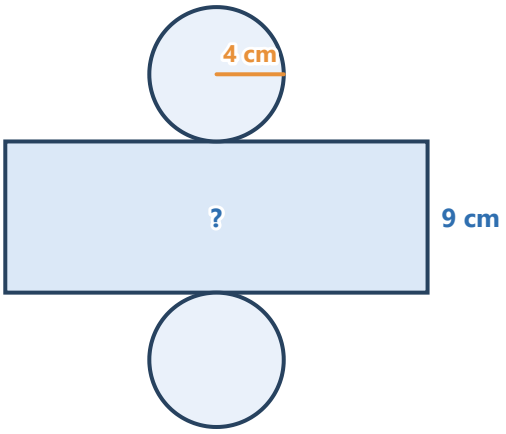
Answer:

7 **The diagram shows a net of a triangular prism. Work out the total area of the net.**



Answer:

8 **The diagram shows the net of a cylinder with radius 4 cm and height 9 cm.**



(a) Write the exact width of the rectangle, in terms of π.

Answer:

(b) Use π = 3.14 to work out the width.

Answer:

9 **The label on a tin of soup covers the whole curved surface. The tin has radius 3.5 cm and height 10 cm. Use π = 22 ÷ 7. Work out (a) the length of the label and (b) the area of the label.**

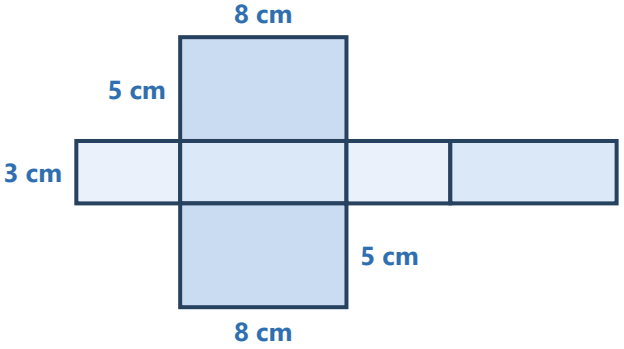
(a) Length of the label

Answer:

(b) Area of the label

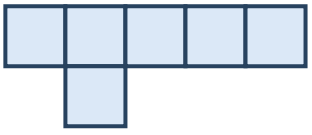
Answer:

10 **The diagram shows a net of a cuboid. Work out the volume of the cuboid.**



Answer:

11 **Explain why this arrangement of six squares is not a net of a cube.**



Answer:

12 **A triangular prism has a right-angled triangle for its cross-section with sides 3 cm, 4 cm and 5 cm. The prism is 10 cm long. (a) Show that the three rectangles in the net fit together to make one rectangle, and give its size. (b) Work out the total area of the net.**

(a) The three rectangles side by side

Answer:

(b) Total area of the net

Answer:

13 **The net of a cube has total area 150 cm^2. Work out the volume of the cube.**

Answer:

14 **Work out the angle of the sector in the net of each cone.**

(a) Base radius 4 cm, slant height 10 cm

Answer:

(b) Base radius 6 cm, slant height 9 cm

Answer:

(c) Base radius 5 cm, slant height 12 cm

Answer:

15 **The net of a cone is a circle and a sector. The sector has radius l and angle $x°$. The base circle has radius r. Show that $x = 360r \div l$.**

Answer:

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