Drawing nets of 3D shapes

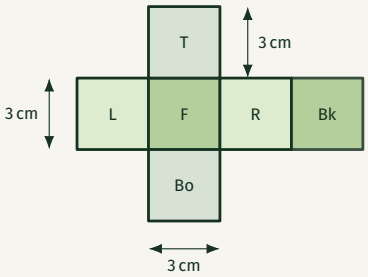
Identify, label, and draw accurate nets for cuboids, cubes, triangular prisms, and square-based pyramids.

Name _____ **Date** _____

How to work through each question

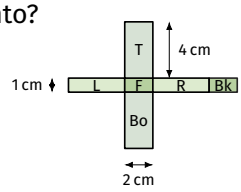
Look carefully at each net's shape and labelled dimensions. A net folds up into a 3D solid without gaps or overlaps. When drawing your own net, use a ruler and label every face with its dimensions.

Worked example Which solid does this net fold up into?



This net has 6 equal squares in a cross arrangement, so it folds up into a cube.

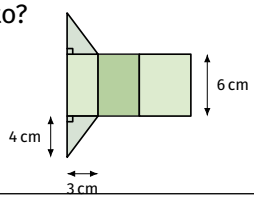
1. Which solid does this net fold up into?



_____

_____

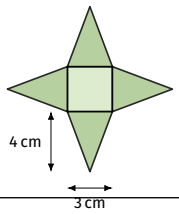
2. Which solid does this net fold up into?



_____

_____

3. Which solid does this net fold up into?



_____

_____

4. How many faces does a cube have?

_____

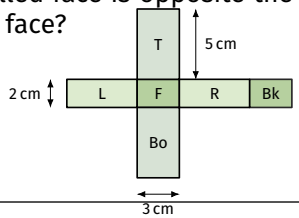
5. How many rectangular faces does a triangular prism have?

_____

6. How many triangular faces meet at the apex of a square-based pyramid?

_____

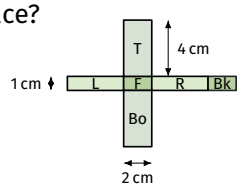
7. On the net shown, which labelled face is opposite the Front (F) face?



_____

_____

8. On the net shown, which single face is congruent to the Top (T) face?



_____

_____

9. A net has 4 triangles attached to the 4 sides of a square. What solid does it make?

_____

_____

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

11. Draw and label a net for a cube with edge length 2 cm.

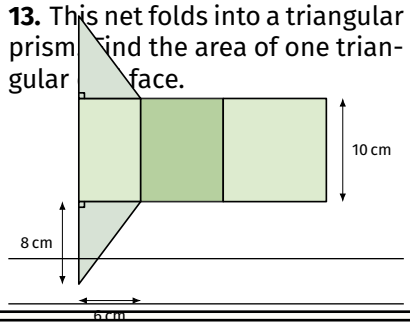
12. Draw a net for a cuboid that is 5 cm long, 3 cm wide, and 2 cm high.

Drawing nets of 3D shapes

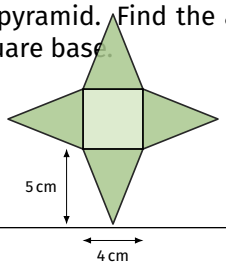
(continued) Use net dimensions to answer, and draw nets accurately to scale.

Name _____ **Date** _____

13. This net folds into a triangular prism. Find the area of one triangular face.



14. This net folds into a square-based pyramid. Find the area of the square base.



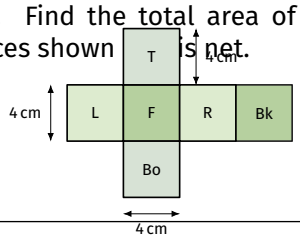
15. A cuboid net has three pairs of congruent rectangles. Explain why a cuboid always has exactly 3 pairs of identical faces.

16. Draw a net for a triangular prism with a 5 cm base, 12 cm height, and 15 cm length.

17. Draw a net for a square-based pyramid with base side 6 cm and slant height 8 cm.

18. Two students draw two different-looking nets for the same cube. Explain how both can be correct.

19. Find the total area of all 6 faces shown in this net.



20. A cuboid measures 8 cm by 5 cm by 3 cm. List the area of each of the 3 different-sized faces in its net.

21. A cube's net has total area 150 cm². Work out the edge length of the cube.

22. A closed cuboid box needs 220 cm² of card. Its base is 10 cm by 5 cm. Find its height.

23. Box A is 8 cm by 6 cm by 4 cm. Box B is 12 cm by 4 cm by 4 cm. Which net uses less card, and by how much?

24. A cube's net has total area 96 cm². Find the volume of the cube.

25. A cuboid net is drawn with faces 6 cm by 4 cm, 6 cm by 3 cm, and 4 cm by 3 cm (one of each pair). Find the volume of the cuboid.

26. A triangular prism net has a right-angled cross-section with legs 9 cm and 12 cm, and length 20 cm. Find the total area of the net.

27. Explain why a square-based pyramid's net cannot be made from 5 identical squares, and state what shapes are needed instead.