

Grade 6 · Surface Area and Nets · Worksheet

Common Core 6.G.A.4 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This worksheet gives Grade 6 students twenty problems on surface area and nets of cubes, rectangular prisms, triangular prisms, and square pyramids. The problems begin with a single cube and move toward open boxes, missing edges, and solids built from several face shapes.

The last six problems are word problems about fabric, gift wrap, a chocolate box, paint, a planter, and a camping tent. Every problem practices Common Core standard 6.G.A.4. Draw the net when it helps, list every face, and write square units.

Grade 6 Common Core: 6.G.A.4

Problem 1: Cube net

The net of a cube has six squares with edges of 5 in. Find the surface area of the cube.

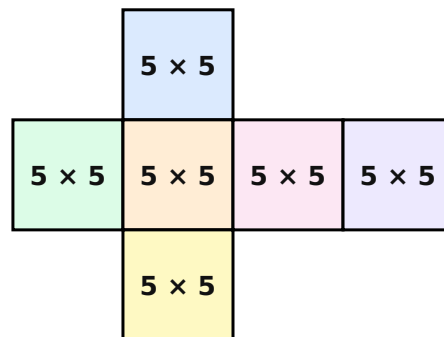
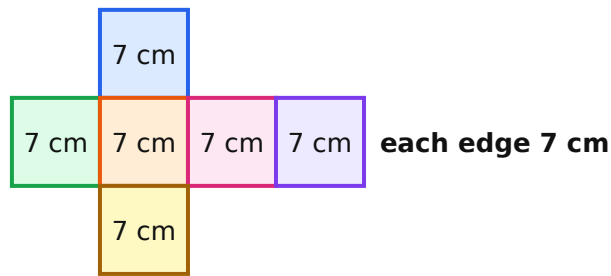


Figure for Problem 1.

Problem 2: Cube with 7 cm edges

The net of a cube has six squares with edges of 7 cm. Find the surface area of the cube.



A cube net.

Problem 3: Name the solid

A net is made of 2 triangles and 3 rectangles. Name the solid it folds into and tell how many faces it has.

Problem 4: Name the solids

Name the solid that each net folds into and tell how many faces it has.

- a. 1 square and 4 triangles
- b. 6 rectangles
- c. 4 triangles

Problem 5: Rectangular prism

Find the surface area of a rectangular prism that is 6 ft long, 4 ft wide, and 3 ft tall.

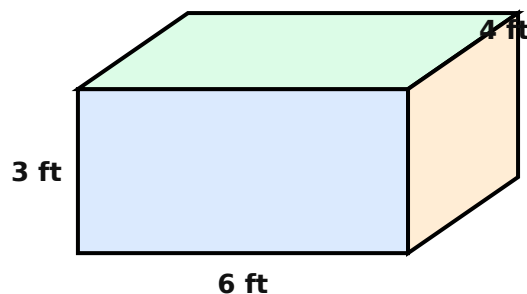


Figure for Problem 5.

Problem 6: Flat box

Find the surface area of a rectangular prism that is 9 in long, 5 in wide, and 2 in tall.

Problem 7: Cereal box

A cereal box is 8 in long, 2.5 in wide, and 12 in tall. Find the total area of cardboard in the

box, ignoring flaps and overlaps.

Problem 8: Triangular prism

Find the surface area of the triangular prism whose net is shown. The triangles have legs 3 in and 4 in and the prism is 10 in long.

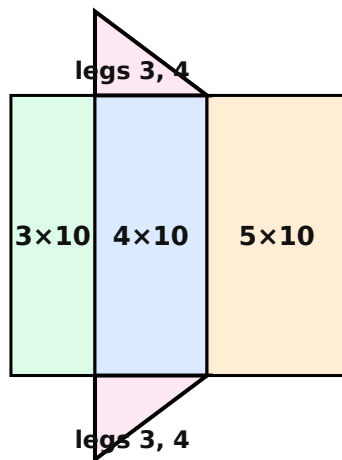
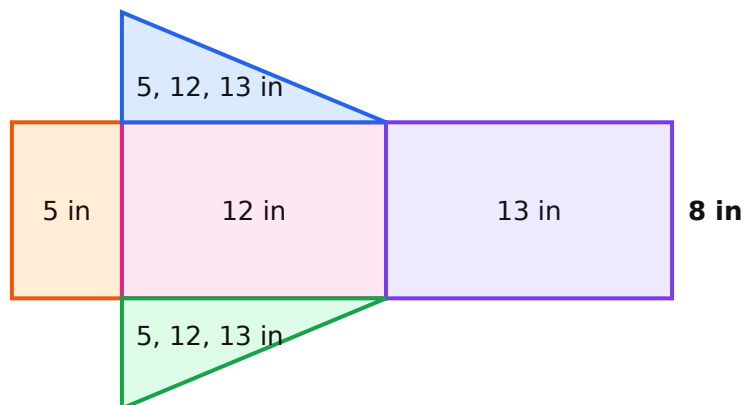


Figure for Problem 8.

Problem 9: Triangular prism with right-triangle ends

Find the surface area of the triangular prism whose net is shown. Each triangle is a right triangle with sides 5 in, 12 in, and 13 in, and the prism is 8 in long.



Net of a triangular prism.

Problem 10: Square pyramid

A square pyramid has a base edge of 6 m, and each triangular face has a slant height of 5 m. Find its surface area.

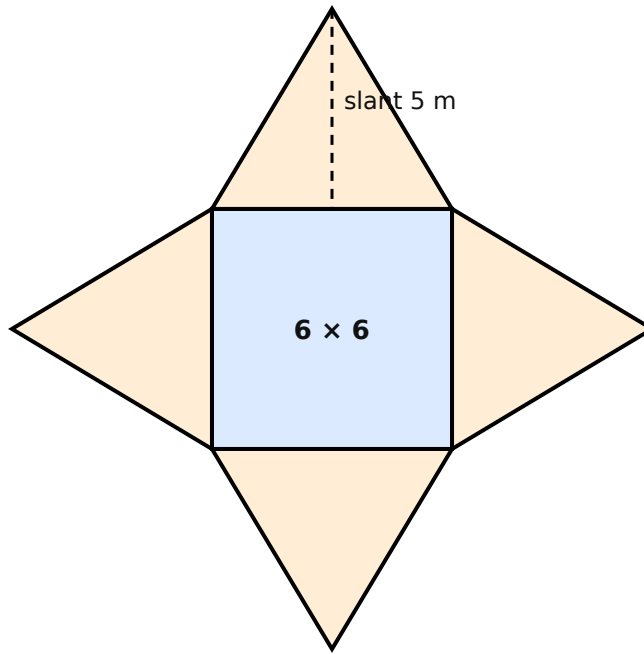
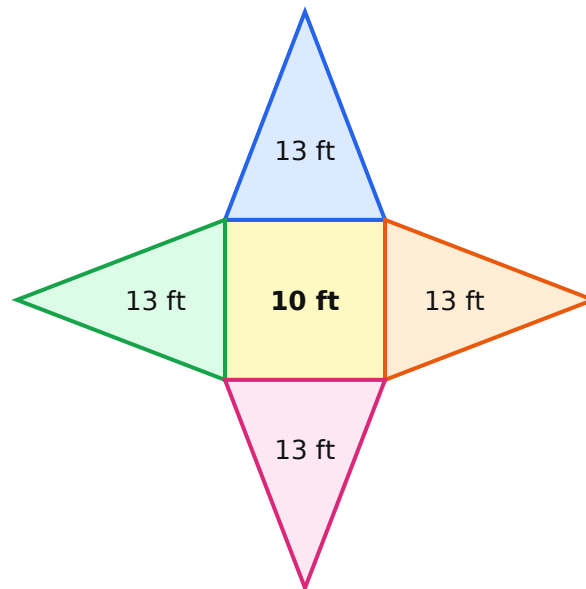


Figure for Problem 10.

Problem 11: Large square pyramid

A square pyramid has a base edge of 10 ft, and each triangular face has a slant height of 13 ft. Find its surface area.



Net of a square pyramid.

Problem 12: Open-top box

A box has no lid. It is 10 in long, 8 in wide, and 4 in tall. Find the area of the outside surface.

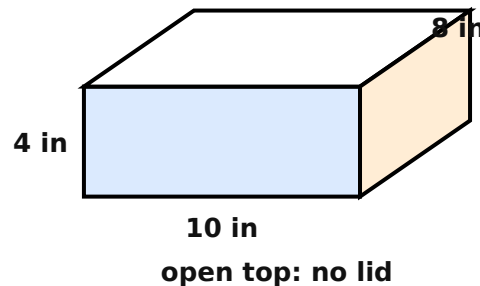


Figure for Problem 12.

Problem 13: Missing edge

A cube has a surface area of 216 in^2 . Find the length of one edge.

Problem 14: Missing height

A rectangular prism is 8 cm long and 5 cm wide. Its surface area is 184 cm^2 . Find its height.

Problem 15: Storage cube

Sofia covers all six faces of a cube-shaped storage seat with fabric. Each edge is 2.5 ft. The fabric costs \$3 per square foot. Find the surface area and the cost of the fabric.

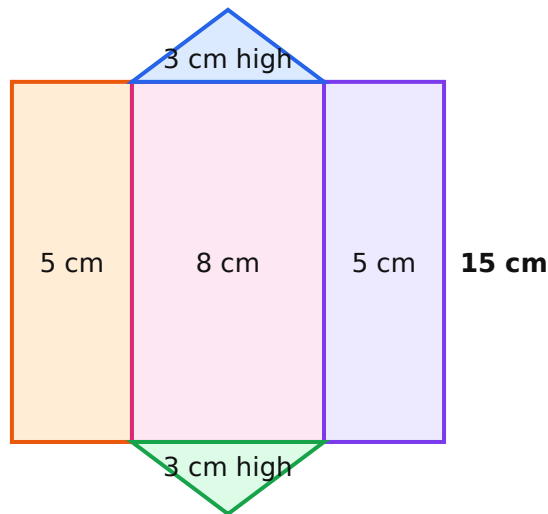
Problem 16: Gift wrap

Priya wraps a gift box that is 12 in long, 9 in wide, and 3 in tall. Find the least amount of wrapping paper that covers the whole box with no overlap.

Problem 17: Chocolate box

A chocolate bar box is a triangular prism. Each triangular end has a base of 8 cm and a height of 3 cm, and its two slanted sides are 5 cm. The box is 15 cm long.

- Find the area of one triangular end.
- Find the surface area of the box.
- A sheet of foil paper has an area of 300 cm^2 . Is it enough to cover the whole box? Explain.



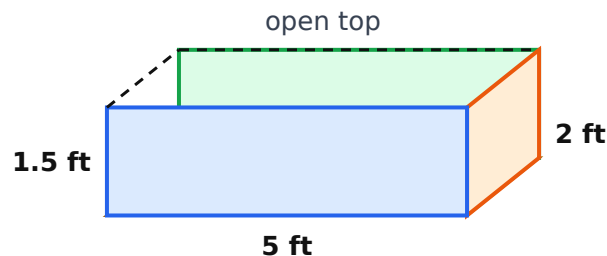
Net of the chocolate box.

Problem 18: Toy chest paint

Diego paints the outside of a closed toy chest that is 4 ft long, 2 ft wide, and 2 ft tall, including the bottom. One quart of paint covers 20 ft^2 with one coat and costs \$9. Find the surface area, then the cost of the paint for two coats.

Problem 19: Planter box

Mei builds an open-top wooden planter that is 5 ft long, 2 ft wide, and 1.5 ft tall. She covers the bottom and the four sides, but not the top, with cedar boards that cost \$4 per square foot. Find the area of cedar needed and the cost.



The planter box has no top.

Problem 20: Camping tent

A tent is shaped like a triangular prism. Each triangular end has a base of 6 ft and a height of 4 ft. The two slanted sides are 5 ft wide, and the tent is 8 ft long. The floor is included. Fabric costs \$2.50 per square foot. Find the amount of fabric and its cost.

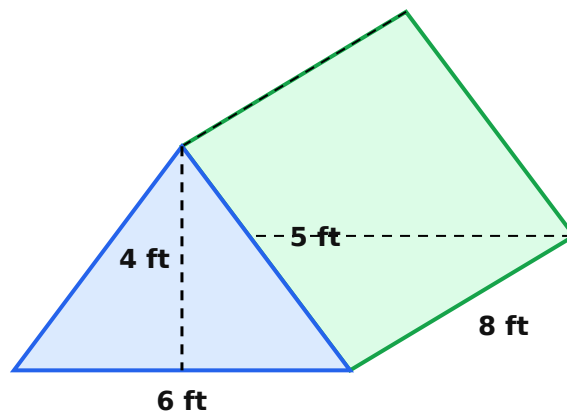


Figure for Problem 20.