

Grade 7 · Area, Surface Area and Volume of Prisms · Test

Common Core 7.G.B.6 · mathovore.fr

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

This 45-minute test covers Common Core standard 7.G.B.6: the area of composite figures, and the volume and surface area of prisms. It has eight questions worth 20 points. Show your work, include units, and use the labeled figures to find the missing information.

Test information

- **Grade:** Grade 7
- **Chapter:** Area, Surface Area and Volume of Prisms
- **Common Core:** 7.G.B.6
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 3 pts; Question 2: 2 pts; Question 3: 3 pts; Question 4: 2 pts; Question 5: 3 pts; Question 6: 2 pts; Question 7: 3 pts; Question 8: 2 pts)

Question 1: Area of an L-shaped figure (3 points)

The figure shows a classroom floor plan. Find its area.

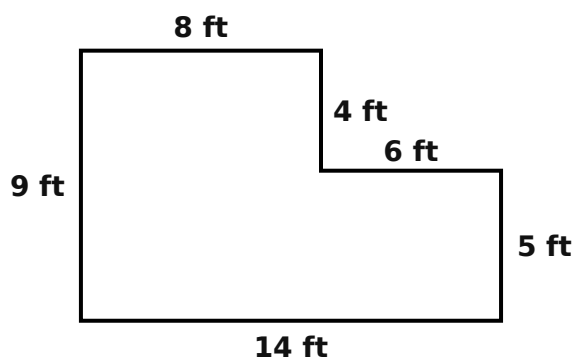


Figure for Question 1.

Question 2: Area of a pennant (2 points)

Find the area of the figure, a rectangle topped by a triangle.

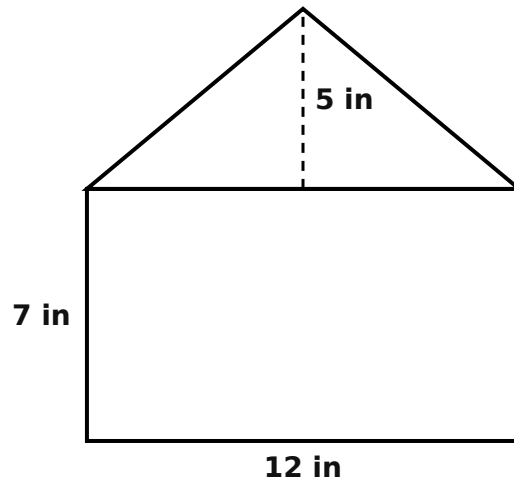


Figure for Question 2.

Question 3: Volumes of prisms (3 points)

- Find the volume of a rectangular prism that is 9 in long, 6 in wide, and 4 in tall. (1 point)
- Find the volume of the triangular prism shown. (2 points)

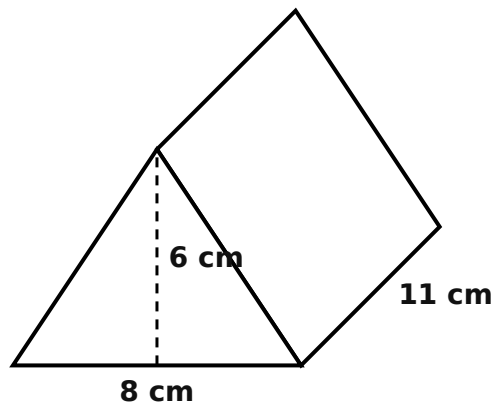


Figure for Question 3(b).

Question 4: Surface area of a box (2 points)

A closed box is 10 cm long, 6 cm wide, and 4 cm tall. Find its surface area.

Question 5: Surface area of a triangular prism (3 points)

The bases of the prism are right triangles. Find its surface area.

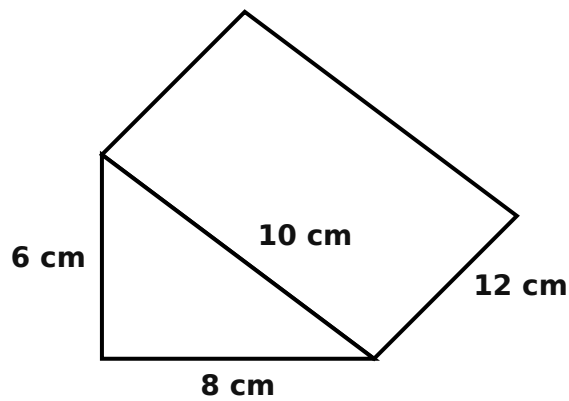


Figure for Question 5.

Question 6: Missing height (2 points)

A storage bin is a rectangular prism with a base 12 ft by 5 ft. Its volume is 360 ft^3 . Find its height.

Question 7: Volume of a composite solid (3 points)

A solid has an L-shaped front face and a depth of 5 cm. Find its volume.

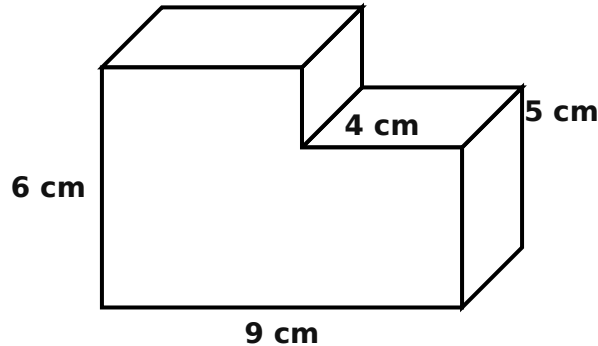


Figure for Question 7.

Question 8: Wrapping a gift (2 points)

Diego wraps a gift box that is 14 in long, 10 in wide, and 6 in tall. A sheet of wrapping paper has an area of 600 in^2 . Is one sheet enough to cover the whole box with no overlap? Explain.