

Math 6 Practice Test: Geometry 3D Figures

Name _____

Date _____

1) Define the terms below and give an example of each.

a. Three-Dimensional Figure

b. Net

c. Surface Area

d. Volume

2) Identify the solid figure shown.

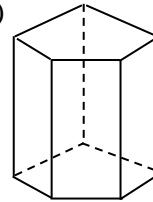
a)



b)

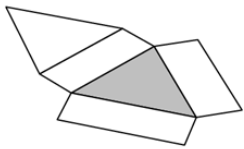


c)

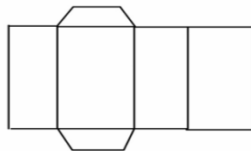


3) Identify the solid figure for each given net.

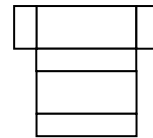
a)



b)

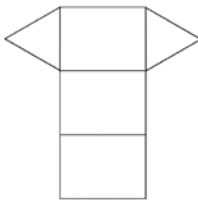


c)

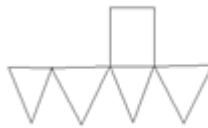


4) Which of the following is NOT the net of a prism?

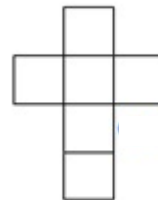
a)



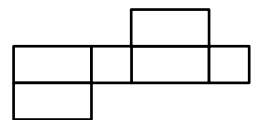
b)



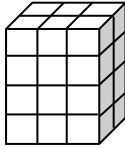
c)



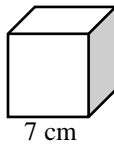
d)



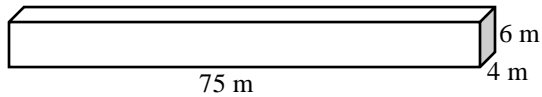
- 5) Write the formula to find the volume of a rectangular prism.
- 6) Write the formula to find the surface area of a rectangular prism.
- 7) Show **two different** ways to find the volume of the figure below. Explain your methods.
 Note: Each cube has an edge length of 1 cm.



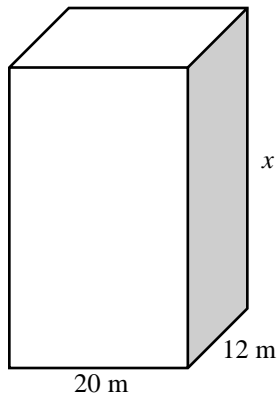
- 8) Find the volume of the figure below. Show your work.



- 9) Find the volume of the figure below. Show your work.



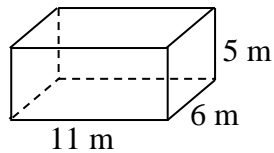
- 10) If the volume of the rectangular prism below is $36,000 \text{ m}^3$, find the height (x). Show your work.



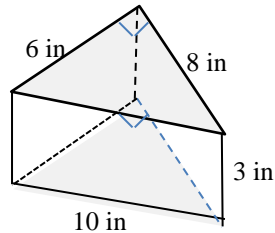
- 11) By how much will the volume of a rectangular prism increase, if its length, and width are doubled but the height remains the same?

| | |
|----|---------|
| a) | 2 times |
| b) | 4 times |
| c) | 6 times |
| d) | 8 times |

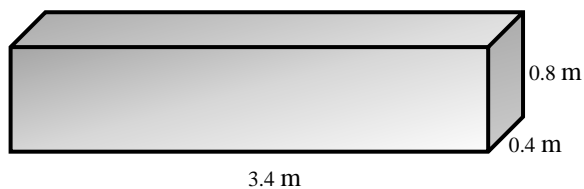
- 12) Find the surface area of the figure below. Show your work.



- 13) Find the surface area of the figure below. Show your work.



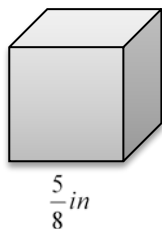
- 14) Find the volume and surface area of the figure shown below. Show your work.



Volume = _____

Surface Area = _____

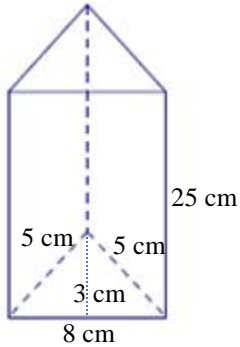
- 15) Find the volume and surface area of the cube shown below. Show your work.



Volume = _____

Surface Area = _____

16) Find the volume and surface area of the figure shown below. Show your work.

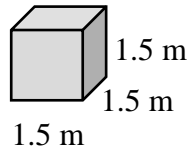


Volume = _____

Volume = _____

Surface Area = _____

17) A can of varnish will cover 64 m^2 of wood. If you want to put one coat of varnish on each of 24 wooden cubes with the dimensions shown at the right, how many cans of varnish should you buy? Show your work.

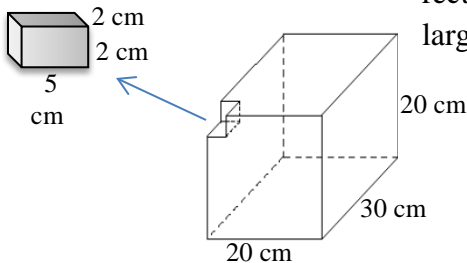


18) A packaging firm has been hired to create a box for children blocks. The firm was hired because it could save money by creating a box using the least amount of material. The packaging firm knows that the volume of the box must be 18 cm^3 .

a. What are the possible dimensions for the box if the volume must be exactly 18 cm^3 .

b. Which set of dimensions should the packaging firm choose in order to use the least amount of material? Show your work and explain your reasoning.

19) The diagram below shows a rectangular prism with sides of lengths 20 cm and 30 cm. A smaller rectangular prism with side lengths 5 cm and 2 cm has been cut out of the larger cube.



a) What is the volume of the large cube before the small cube is cut out?

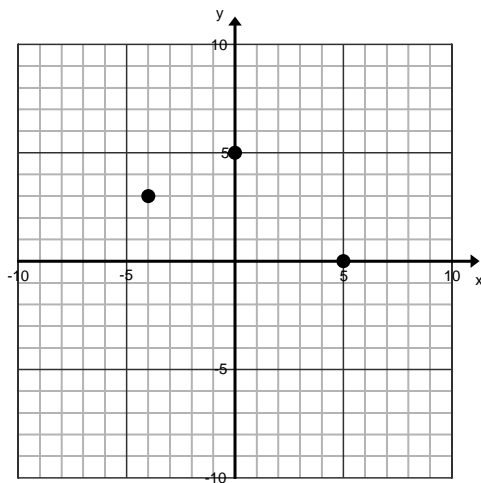
b) What is the volume of the small cube being cut out?

c) What is the volume of the solid left?

Long-term Memory Review

20) Solve. $6.3n = 56.7$

21) The location of three vertices of a parallelogram are shown on the coordinate plane below. Find the location of **two different sets** of ordered pairs (two different points) for the possible missing vertex of the parallelogram.



22) Draw a model to solve $\frac{1}{2} \div \frac{3}{5} =$

23) Thomasina has been offered a job at two different companies. The first job pays \$880.00 per week. The second job pays \$790.00 per week plus 12% commission on her sales. How much will she have to sell weekly in order for the second job to pay as much as the first job?