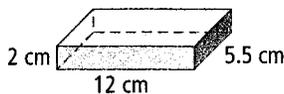


7

Practice Test

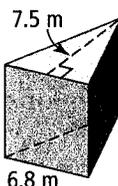
For #1 to #5, choose the best answer.

1. What is the volume of the right rectangular prism shown?



- A 101 cm³ B 126 cm³
C 132 cm³ D 144 cm³

2. What is the volume of the right triangular prism shown?



- A 91.8 m³ B 183.6 m³ C 367.2 m³ D 734.4 m³

3. What is the volume of a cube with edge length 8 cm?

- A 64 cm³ B 72 cm³
C 384 cm³ D 512 cm³

4. What is the volume of a cylinder with a diameter of 7.5 cm and a height of 24 cm?

- A 282.6 cm³ B 565.2 cm³
C 1059.75 cm³ D 4239.0 cm³

5. A rectangular watering trough measures 30 cm × 25 cm × 12 cm. In winter, a small cylindrical heater with a radius of 5 cm and a height of 12 cm is kept in the trough. What is the maximum volume of water in the trough in winter?

- A 6074 cm³ B 8058 cm³
C 8700 cm³ D 9000 cm³

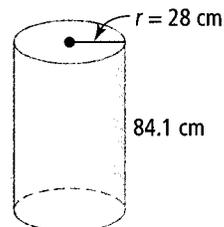
Complete the statements in #6 and #7.

6. The area of the base of a right cylinder is 20 cm². The volume of the cylinder is 140 cm³. The height of the cylinder is ■.

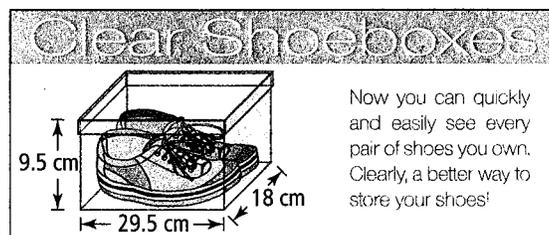
7. A right rectangular prism has dimensions of 3 cm by 4 cm by 6 cm. The volume of the prism is ■.

Short Answer

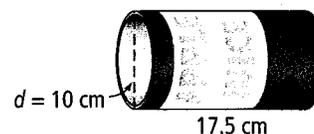
8. Determine the volume of oil in one full barrel. Write your answer to the nearest tenth of a cubic centimetre.



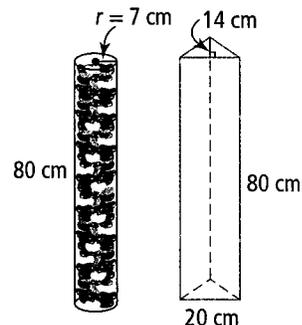
9. Ying sees this advertising flyer. She decides to buy 12 of these boxes for her shoes. What total volume will these boxes occupy in her closet?



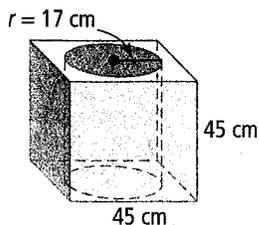
10. Ian knocked over an open can of apple juice. If it was filled to the top when it spilled, what volume of apple juice did Ian have to clean up?



11. Leanna uses a cylinder to store jelly beans. She wonders if she could store more jelly beans if she used a triangular prism of the same height. Which container is larger? Explain.



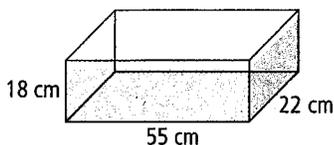
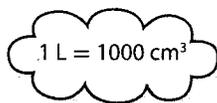
12. Calculate the volume of a cube with a cylindrical hole through it.



13. The garbage bin outside the school measures $2.5 \text{ m} \times 2 \text{ m} \times 2 \text{ m}$. The garbage cans in the school are cylinders 0.75 m in diameter and 1.2 m high. How many garbage cans can be emptied into the bin before it is full? Give your answer to the nearest full can.

Extended Response

14. a) Calculate how many litres of water the aquarium tank shown will hold when filled to the top.

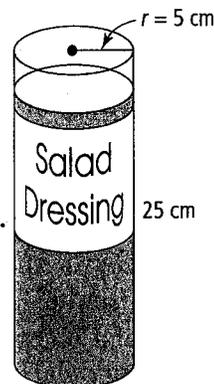


- b) The tank is filled with water up to 5.4 cm from the top. How many litres of water are in the tank?

15. Yuri is building a concrete patio 6 m wide by 6 m long. The concrete will be 0.15 m thick.
- What volume of concrete does Yuri need?
 - Concrete costs $\$110.00/\text{m}^3$. How much does Yuri have to pay before tax?

16. Twelve glass jars of salad dressing are to be shipped in a box.

- Give at least three possible sets of dimensions for this box.
- What is the volume of each box?
- The packers will add foam chips in the empty spaces to reduce breakage. What is the volume of empty space in each box?
- The cost of shipping increases as the surface area increases. Which box would you use? Explain.



Wrap It Up!

Your local Parks Committee has asked you to create a design for an eating area.

- a) Draw a plan of your eating area. It must have at least
- one shelter
 - one table with two benches
 - one garbage container or planter

Your design must include at least a rectangular prism, a triangular prism, and a cylinder. Clearly label all of the dimensions on your diagram.

- b) Assume all your items will be molded from concrete. Determine the total volume of concrete needed for your design. Calculate the cost of the concrete, to the nearest dollar. Show your calculations.
- c) Put together a cost sheet, based on your eating area plan, to present to the Parks Committee.

