

Unit 1: Finding Volume

ADVANCED · SET 3

Name: _____ Date: _____

Show your work on scratch paper. Every figure is a right rectangular prism (a box). Write each answer with its units.

1. A pet store fish tank is shaped like a box. Its base is 18 in long and 15 in wide. The tank holds 4,860 cubic inches of water when it is completely full. How tall is the tank?

Answer: _____

3. A toy chest is 2 ft long, 18 in wide, and 30 in tall. (Remember: 1 ft = 12 in.) What is the volume of the toy chest in cubic inches?

Answer: _____

5. A packing crate is 15 in long, 12 in wide, and 9 in tall. It is filled completely with wooden cubes that are 3 in on every edge, with no gaps. How many cubes are in the crate?

Answer: _____

7. A truck bed shaped like a box is 12 ft long, 6 ft wide, and 2 ft tall. It is filled to the top with mulch. Mulch costs \$3 for each cubic foot. How much does the mulch in the truck cost?

Answer: _____

9. A shipping carton is 24 in long, 18 in wide, and 20 in tall. Small boxes are 6 in long, 6 in wide, and 5 in tall. The small boxes are packed in neat rows with no gaps and no leftover space. How many small boxes fit inside the carton?

Answer: _____

2. A concrete garden step is made of two boxes stacked on top of each other. The bottom box is 24 cm long, 15 cm wide, and 8 cm tall. The top box is 24 cm long, 9 cm wide, and 6 cm tall. What is the total volume of the step?

Answer: _____

4. Maya has two boxes. Box A is 16 cm by 12 cm by 7 cm. Box B is 21 cm by 8 cm by 9 cm. How many more cubic centimeters does the larger box hold than the smaller box?

Answer: _____

6. An aquarium has a base 30 cm long and 20 cm wide. The water is 14 cm deep. Ravi pours in 3,000 more cubic centimeters of water. How deep is the water now?

Answer: _____

8. Box A is 9 cm by 8 cm by 20 cm. Box B holds exactly the same amount as Box A. The base of Box B is 16 cm long and 5 cm wide. How tall is Box B?

Answer: _____

10. A small sponge is 4 cm long, 5 cm wide, and 6 cm tall. A giant sponge has every edge twice as long as the small sponge's edges. What is the volume of the giant sponge?

Answer: _____

11. A birdhouse is made of two boxes stacked together. The bottom box is 25 cm long, 16 cm wide, and 10 cm tall. The top box is 15 cm long and 8 cm wide. The whole birdhouse has a volume of 5,800 cubic centimeters. How tall is the top box?

Answer: _____