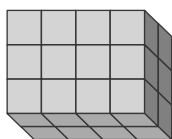


# Additional Practice 11-2

## Develop a Volume Formula

### Another Look!

What is the volume of the rectangular prism?



Use the formula  $V = b \times h$  and cubes to help.

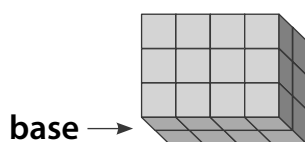


$$V = b \times h$$

$b$  = the area of the base

$h$  = height

What is the area of the base?

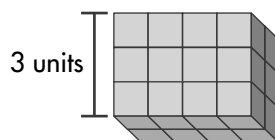


$$A = \ell \times w$$

$$A = 4 \times 2$$

$$A = 8 \text{ units}^2$$

What is the height,  $h$ ?



The prism is 3 units tall.

Use the values to complete the formula.

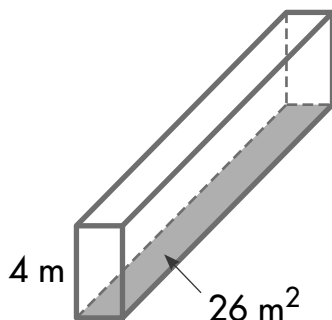
$$V = b \times h$$

$$V = 8 \times 3$$

$$V = 24 \text{ units}^3$$

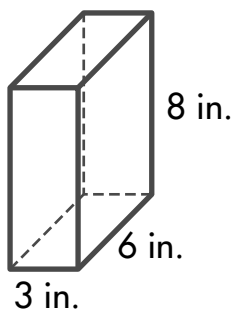
In 1–6, find the volume of each rectangular prism.

1.



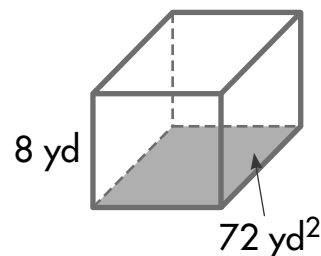
$$104 \text{ m}^3$$

2.



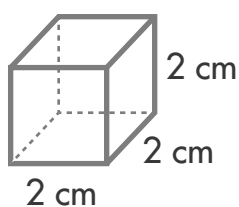
$$144 \text{ in}^3$$

3.



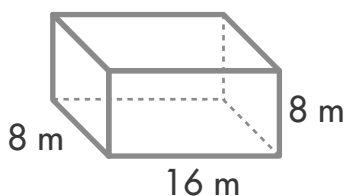
$$576 \text{ yd}^3$$

4.



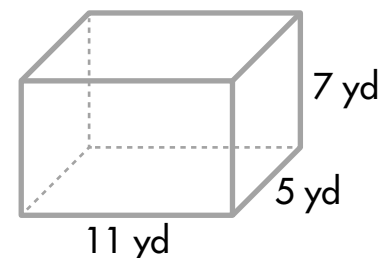
$$8 \text{ cm}^3$$

5.



$$1,024 \text{ m}^3$$

6.

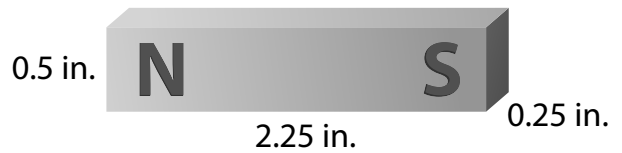


$$385 \text{ yd}^3$$



7. **Model with Math** Write an expression for the volume of the bar magnet.

**Sample answer:**  $(2.25 \times 0.25) \times 0.5 \text{ in}^3$



8. The front door of a house is 80 inches tall. What is the volume of the door?

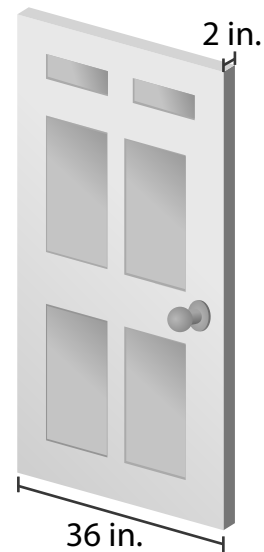
**5,760 in<sup>3</sup>**

9. A bedroom door in the house has the same dimensions as the front door, but the area of the base is 60 inches rather than 72 inches. How much greater is the volume of the front door than the bedroom door?

**960 in<sup>3</sup>**

10. The living room in the house has an area of 224 square feet and a width of 14 feet. What is the length of the room?

**16 ft**



11. **Higher Order Thinking** A cube has a volume of 1,000 cubic feet. What is the length of an edge of the cube? Show how you found your answer.

**10 feet; Sample answer:**  
 $10 \times 10 \times 10 = 1,000$

12. A quadrilateral has all sides the same length and no right angles. What is the name of the quadrilateral?

**Rhombus**



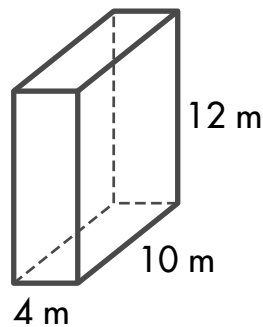
What quadrilaterals can this shape NOT be?

### Assessment Practice

13. Choose all the statements that are true.

- ☐ Volume of Prism G =  $40 + 12 \text{ m}^3$
- ☒ Volume of Prism G =  $40 \times 12 \text{ m}^3$
- ☒ Volume of Prism H =  $70 \times 7 \text{ m}^3$
- ☐ Volume of Prism H =  $14 \times 12 \text{ m}^3$
- ☒ Volume of Prism H =  $(14 \times 5) \times 7 \text{ m}^3$

**Rectangular Prism G**



**Rectangular Prism H**

