MODULE
15
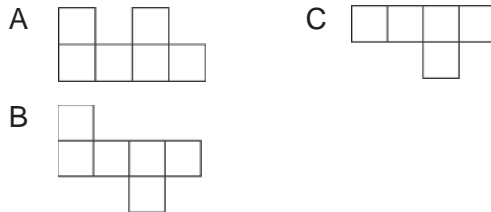
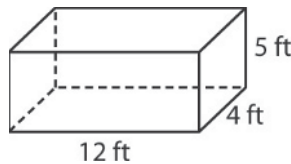# Surface Area and Volume of Solids

Module Quiz: D

1. Which correctly describes the net of a cube?

   A six squares

   B one circle, four squares

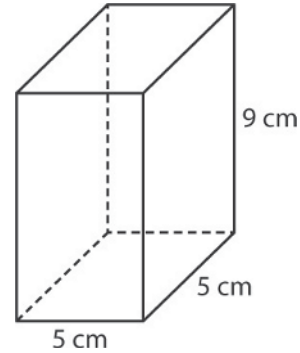   C two squares, three rectangles

2. Which net is the net of a cube?

   A

   C

   B

3. What is the surface area of this rectangular prism?

   5 ft
   4 ft
   12 ft

   A 128 ft^2 C 256 ft^2

   B 240 ft^2

4. A point at (4, 6) is reflected across the *x*-axis. What is the *y*-coordinate of the reflected point?

   A 6   C −4

   B −6

5. A rectangular prism has a volume of 192 cubic inches. The prism is 4 inches wide and 8 inches long. What is the height of the prism?

   A 8 in.   C 4 in.

   B 6 in.

6. Which of the following expressions is equivalent to the expression below?

   $$3(2x + 4)$$

   A 3*x* + 4   C 6*x* + 4

   B 6*x* + 12

7. What is the surface area of this rectangular prism below?

   9 cm
   5 cm
   5 cm

   A 210 cm^2 C 240 cm^2

   B 230 cm^2

8. Which rectangular prism has a volume of 280 cubic inches?

   A a rectangular prism 4 inches wide, 8 inches long, and 9 inches tall

   B a rectangular prism 6 inches wide, 7 inches long, and 9 inches tall

   C a rectangular prism 5 inches wide, 7 inches long, and 8 inches tall

9. A child's wading pool is 4 feet wide, 6 feet long, and 1 foot deep. How many gallons of water will the pool hold?
   (Hint: Multiply the number of cubic feet by 7.5 gal.)

   A 180 gal   C 3.2 gal

   B 16.5 gal

10. Cement pillars for a porch are 2 feet wide, 2 feet thick, and 8 feet tall. There are 6 pillars in all. What is the total volume of the pillars?

    A 24 ft^3 C 192 ft^3

    B 32 ft^3

11. A triangle has a height of 12 centimeters and an area of 48 square centimeters. Which equation could be used to find the length of the base, *b*?

    A 48 = (12 × *b*)   C 48 ÷ 12 = *b*

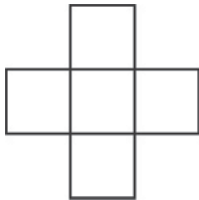   B $48 = \frac{1}{2}(12 \times b)$

MODULE
15

Surface Area and Volume of Solids

12. The volume of a cube is 8 cubic units. What is the length of each edge? Explain how you know.

_____

_____

13. Erica has a small metal treasure box. The inside of the box is 3 inches wide, 6 inches long, and 4 inches deep. Erica wants to line the box with fabric to protect the items she puts in the box. How many square inches of fabric will she need? Show your work.

_____

_____

14. Explain why the net below will **not** make a cube.

_____

_____

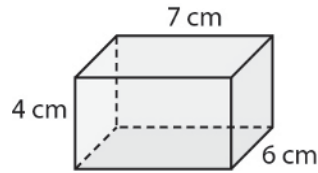15. The rectangular prism below has a volume of 420 cubic meters.

7 m
4 m

a. Complete the equation that could be used to find the length of the prism.
420 = _____ × _____ × length

b. Find the length. Show your work.

_____

16. Evaluate the expression below for $x = 2$.

$$3x + 5(x + 1)$$

_____

17. Find the surface area of the rectangular prism.

7 cm
4 cm
6 cm

_____

18. Draw a net for the rectangular prism below and label the dimensions. Find the volume and surface area of the prism.

9 cm
3 cm
3 cm

_____

_____