

Guided Practice

13.4

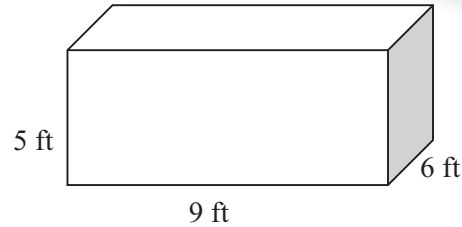
NAME _____

Module 13 Perimeter, Area, and Volume
Lesson 4 Surface Area: Prisms, Cylinders, and Spheres

Set 1

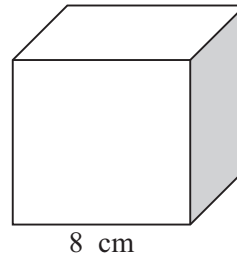
1 Find the surface area of the rectangular prism.

$$\begin{aligned} SA &= 2(lw) + 2(wh) + 2(lh) \\ SA &= 2(9 \times 6) + 2(6 \times 5) + 2(9 \times 5) \\ SA &= 2(54) + 2(30) + 2(45) \\ SA &= 108 \text{ ft}^2 + 60 \text{ ft}^2 + 90 \text{ ft}^2 \\ SA &= 258 \text{ ft}^2 \end{aligned}$$



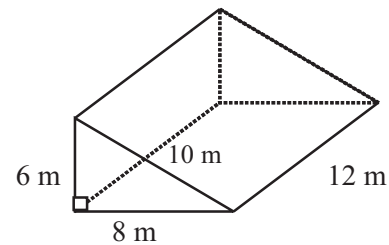
2 Find the surface area of the cube.

$$\begin{aligned} SA &= 6(8 \text{ cm} \times 8 \text{ cm}) \\ &= 384 \text{ cm}^2 \end{aligned}$$



3 Find the surface area of the triangular prism.

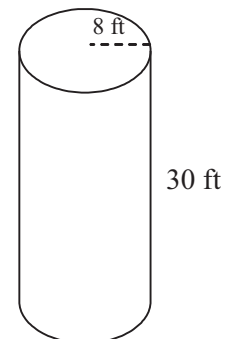
$$\begin{aligned} SA &= 2B + L \\ &= 2 \times \frac{1}{2}(8 \times 6) + (6 \times 12) + (8 \times 12) + (10 \times 12) \\ &= 48 \text{ m}^2 + 72 \text{ m}^2 + 96 \text{ m}^2 + 120 \text{ m}^2 \\ &= 336 \text{ m}^2 \end{aligned}$$



Set 2

1 Find the surface area of the cylinder.

$$\begin{aligned} SA &= 2\pi r^2 + 2\pi rh \\ &= 2 \times 3.14 \times 8^2 + 2 \times 3.14 \times 8 \times 30 \\ &\approx 1,909.12 \text{ ft}^2 \end{aligned}$$



2

Find the surface area of a cylinder with a diameter of 12 millimeters and height of four millimeters.

$$\begin{aligned}SA &= 2\pi r^2 + 2\pi rh \\ &= 2 \times 3.14 \times 6^2 + 2 \times 3.14 \times 6 \times 4 \\ &\approx 376.8 \text{ mm}^2\end{aligned}$$

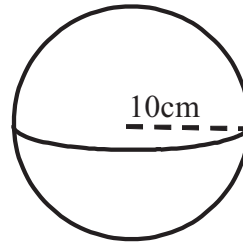


Set 3

1

Find the surface area of the sphere.

$$\begin{aligned}SA &= 4\pi r^2 \\ &= 4 \times 3.14 \times 10^2 \\ &\approx 1,256 \text{ cm}^2\end{aligned}$$



2

Find the surface area of a sphere with a diameter of eight millimeters.

$$\begin{aligned}SA &= 4\pi r^2 \\ &= 4 \times 3.14 \times 4^2 \\ &\approx 200.96 \text{ mm}^2\end{aligned}$$

