

# Assignment

## Write

Explain how to determine the surface area and volume of any right prism or right pyramid.

## Remember

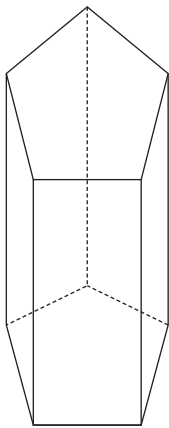
To calculate the area of a regular polygon, decompose the polygon into congruent triangles, calculate the area of one triangle, and multiply the area of the triangle by the number of congruent triangles that comprise the polygon.

## Practice

1. Use the area of the bases and the height to calculate the volume of each solid.

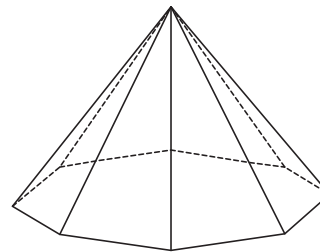
a. Area of the base =  $40 \text{ in.}^2$

The height of the prism = 8 in.

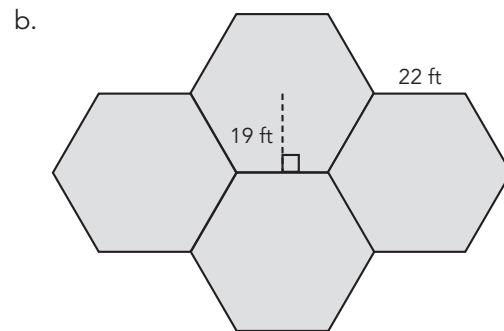
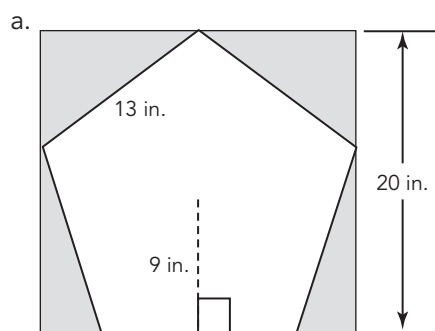


b. Area of the base =  $696 \text{ cm}^2$

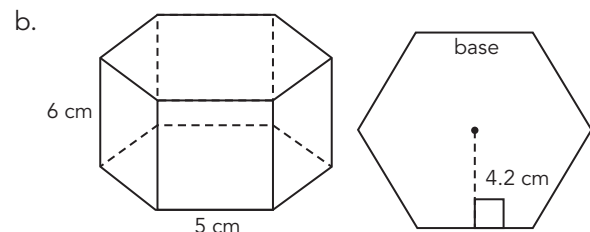
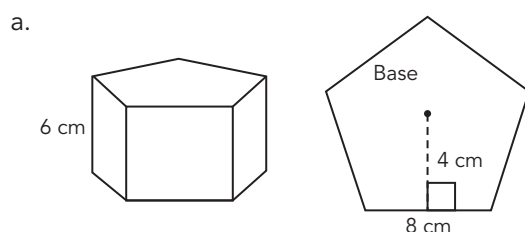
The height of the pyramid = 20 cm



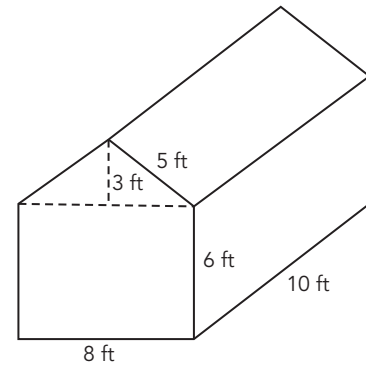
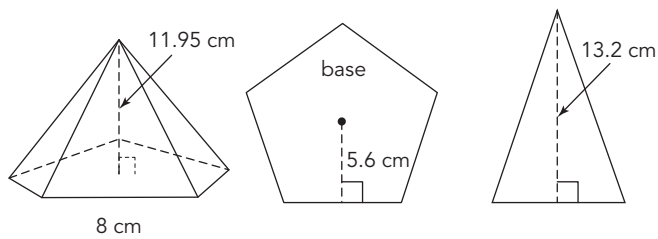
2. Calculate the area of each shaded region.



3. Calculate the volume and surface area of each solid.



c.



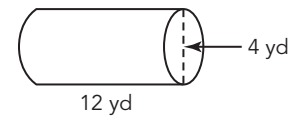
4. Khaled works for the Happy Camper tent-making company. He is working on a design for a new tent. A sketch of his design is shown. The tent is a right prism.

Use the sketch of Khaled's tent to answer each question. Decompose the solid as necessary.

- a. Calculate the surface area of Khaled's tent.      b. Calculate the volume of Khaled's tent.

## Stretch

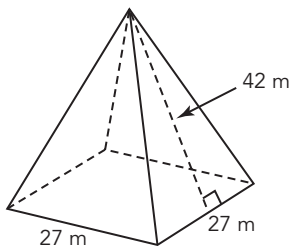
Calculate the volume and surface area of the cylinder.



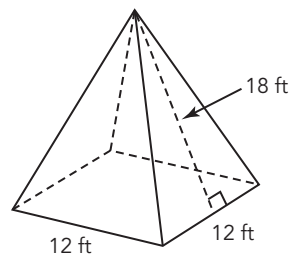
## Review

1. Calculate the surface area of each right rectangular pyramid.

a.

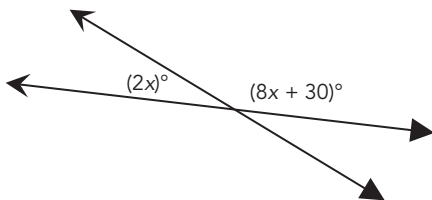


b.

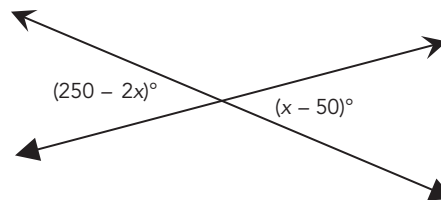


2. Calculate the unknown angle measures in each.

a.



b.



3. Use properties to rewrite each expression with as few terms as possible.

a.  $7 + 9\left(\frac{1}{2}x - 12\right) - 2\frac{1}{2}$

b.  $\frac{1}{4}\left(\frac{24 + 21x}{3} - 15x\right)$