

## Surface Area

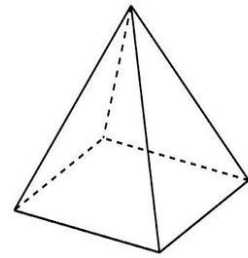
<b>Cone</b> $\pi r^2 + \pi rs$	<b>Sphere</b> $4\pi r^2$	<b>Cylinder</b> $2\pi r^2 + 2\pi rh$
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## Volume

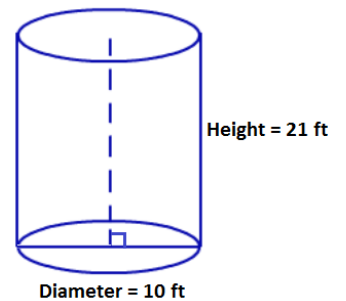
<b>Cone</b> $\frac{\pi r^2 h}{3}$	<b>Sphere</b> $\frac{4\pi r^3}{3}$	<b>Pyramid</b> $\frac{Ah}{3}$
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## Surface Area and Volume Questions

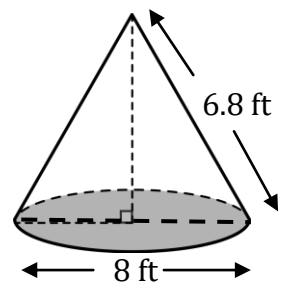
1. A right square pyramid has a base length of 5 cm and a height 12 cm.
  - a). What is the slant height of the pyramid to the nearest cm?
  - b). What is the surface area of the pyramid to the nearest  $\text{cm}^2$ ?
  - c). What is the volume of the pyramid to the nearest cubic cm?
  
2. A right rectangular prism has a volume of  $412.5 \text{ in}^3$ , what is the volume of a right rectangular pyramid with the same base and height?
  
3. A cone has a volume of  $1525 \text{ mm}^3$  and a base radius of 7 mm. What is its height to the nearest tenth of a millimeter?



4. What is the surface area of the cylinder to the nearest square foot?



5. Refer to the cone given on the right.
  - a). What is the lateral area of the cone to one decimal place?
  - b). What is the total surface area of the cone to one decimal place?

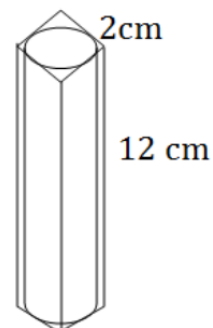


6. The volume of a cylinder is  $978.18 \text{ cm}^3$ . If the height is  $8.1 \text{ cm}$ , what is the radius?  
Draw and label a diagram.

- 7a). A sphere has a radius of  $25 \text{ cm}$ . What is the surface area of the sphere to the nearest square centimetre?

- b). What is the surface area of a hemisphere with the same size radius?

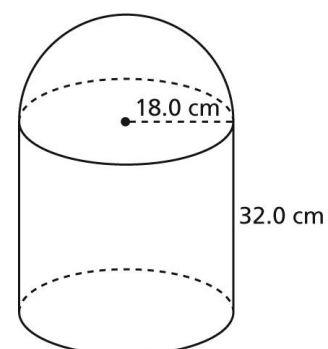
8. A closed cylindrical can is packed in a box. What is the volume of the empty space between the can and the box? Given the height is  $12 \text{ cm}$  and the square at the top of the box is  $2 \text{ cm}$ .



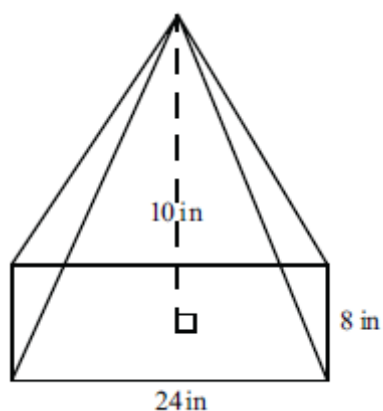
- 9a. The surface area of a lacrosse ball is  $20 \text{ in}^2$ . What is the diameter of the lacrosse ball to the nearest tenth of an inch?

- b. What is the volume of a lacrosse ball to one decimal place?

10. Determine the volume and surface area of this composite object. Give answers to two decimal places where necessary.



11. What is the volume and surface area of the rectangular pyramid?



12. A square pyramid has a volume of  $12.6 \text{ ft}^3$ . What is the volume of a square prism with the same base and height?