



# Geometry Workbook

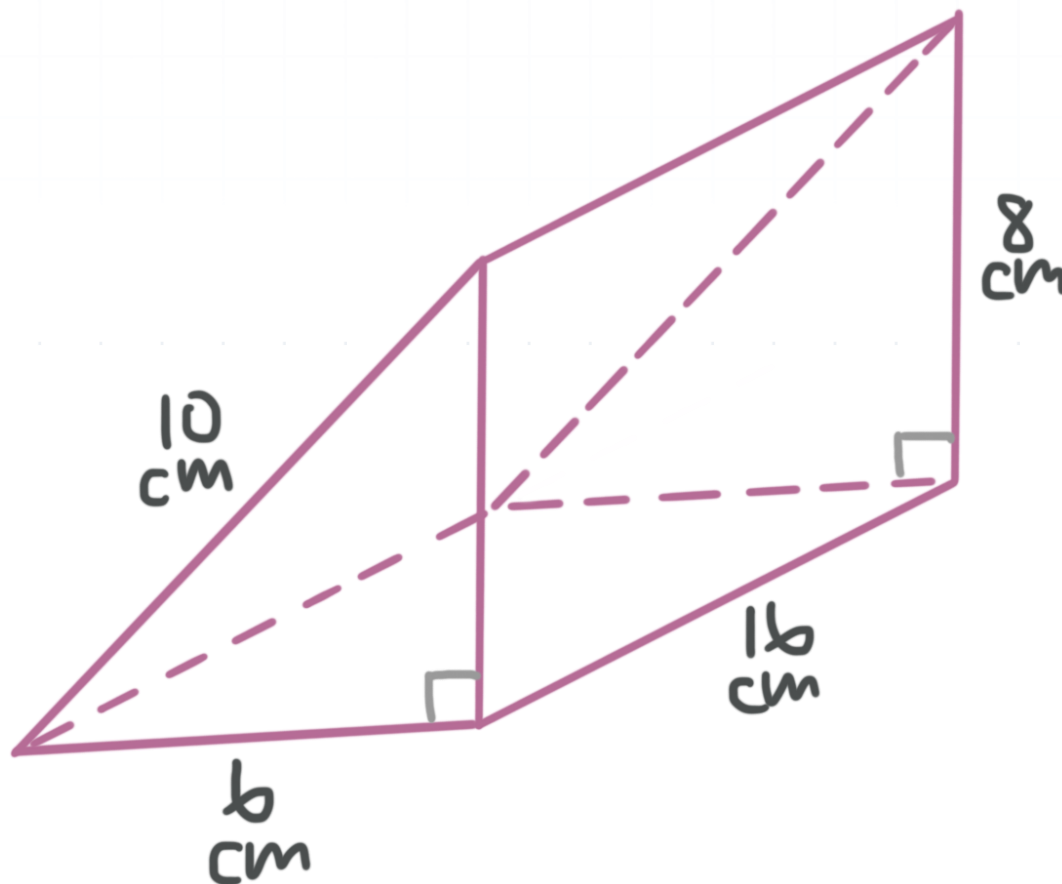
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Volume and surface area

*krista king*  
MATH

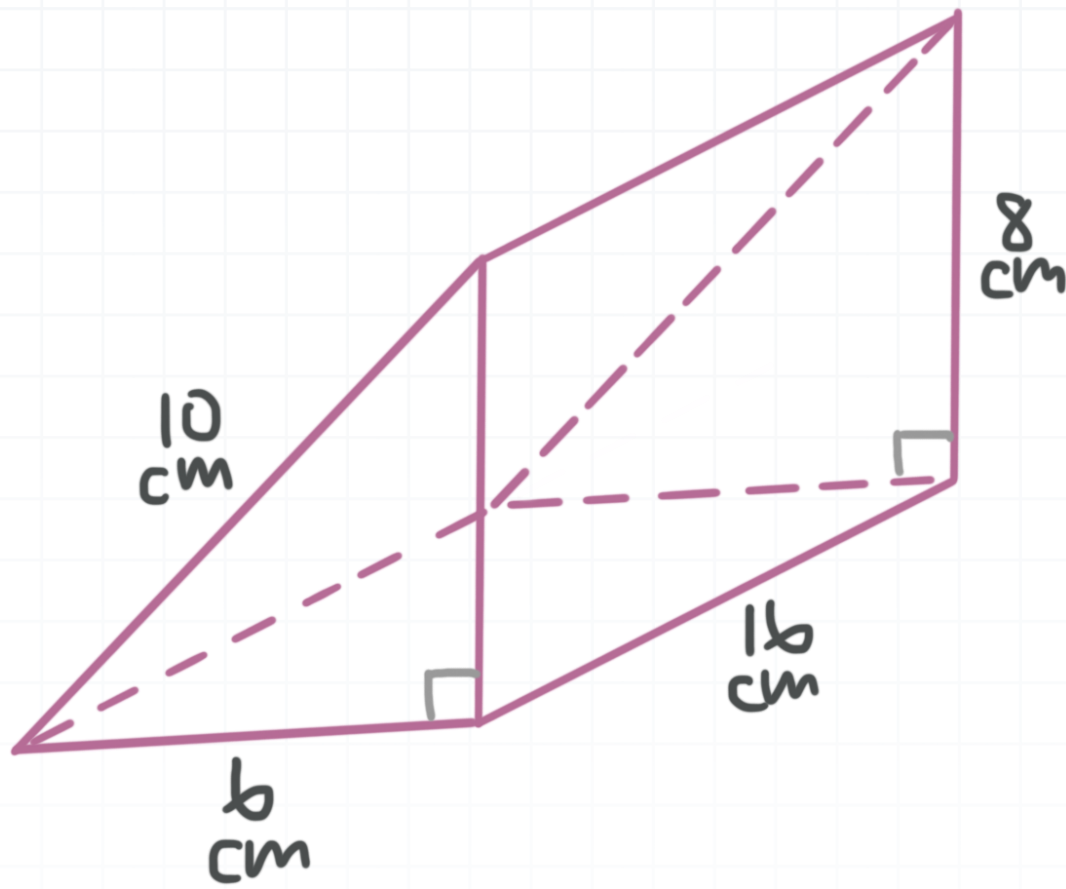
## NETS/VOLUME/SURFACE AREA OF PRISMS

- 1. Find the volume of a rectangular prism with length 14 feet, width 10 feet, and height 5 feet.
- 2. Find the surface area of a rectangular prism with length 14 feet, width 10 feet, and height 5 feet.
- 3. Find the surface area of the triangular prism.



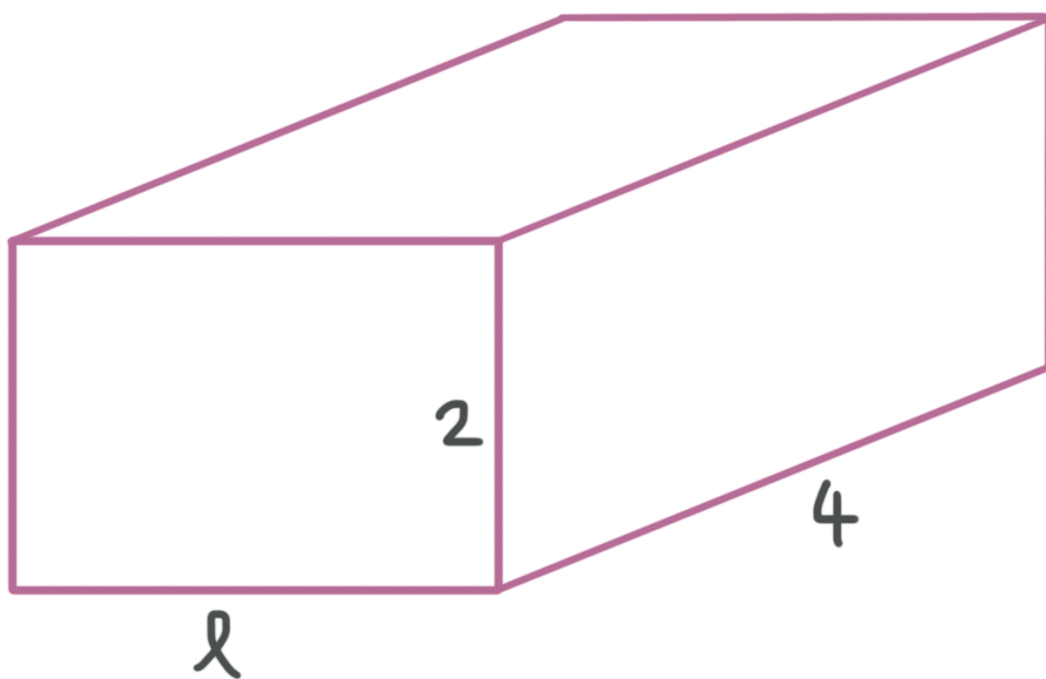
- 4. Find the volume of the triangular prism.



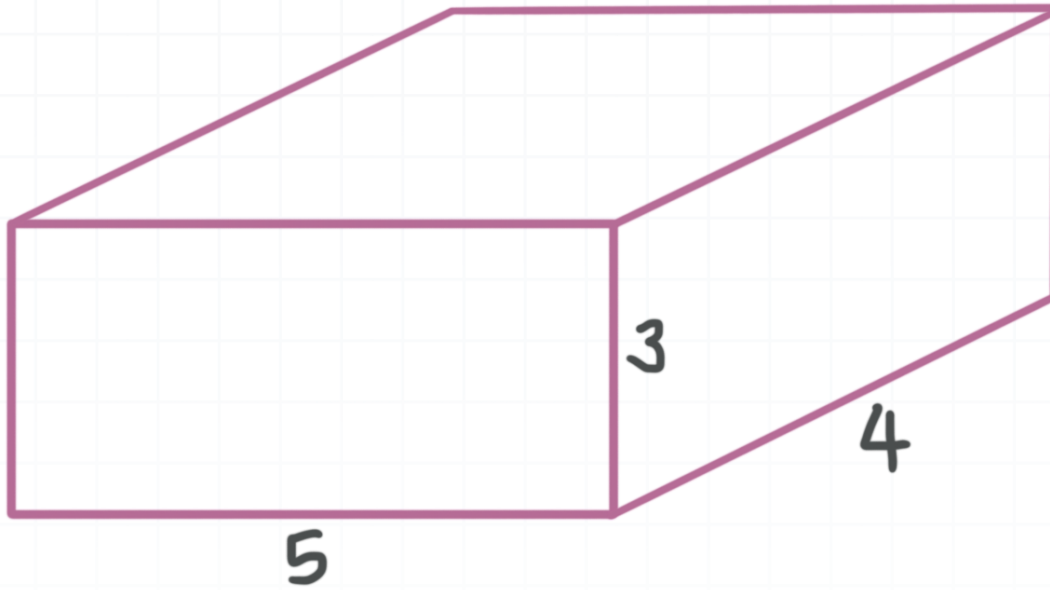


## SURFACE AREA TO VOLUME RATIO OF PRISMS

- 1. A rectangular prism has length, width, and height of 5 inches. Find the ratio of its surface area to its volume.
- 2. A cube has a volume of  $216 \text{ in}^3$ . Suppose we double the length of each side of the cube. What is the ratio of the smaller cube to the larger cube?
- 3. In lowest terms, find the ratio of volume to surface area of a cube with side length  $x$ .
- 4. The ratio of the volume to surface area for the following rectangular prism is  $1 : 2$ . Find the length of the prism.

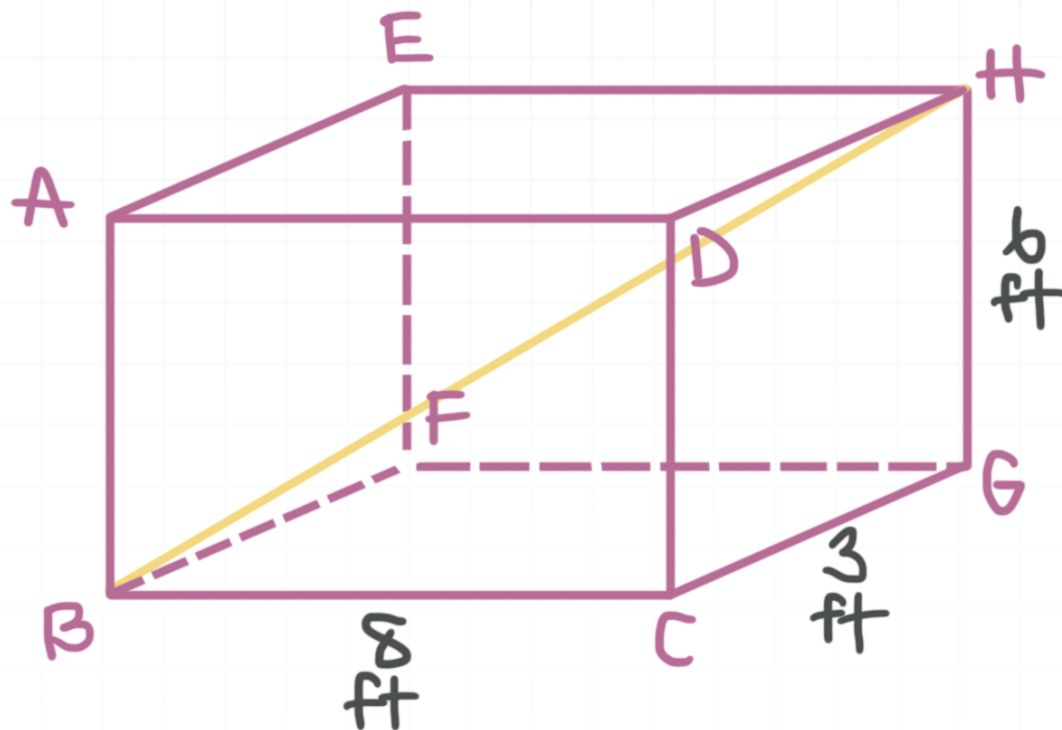


- 5. How many times greater will the surface area of this rectangular prism be if we double each side length?



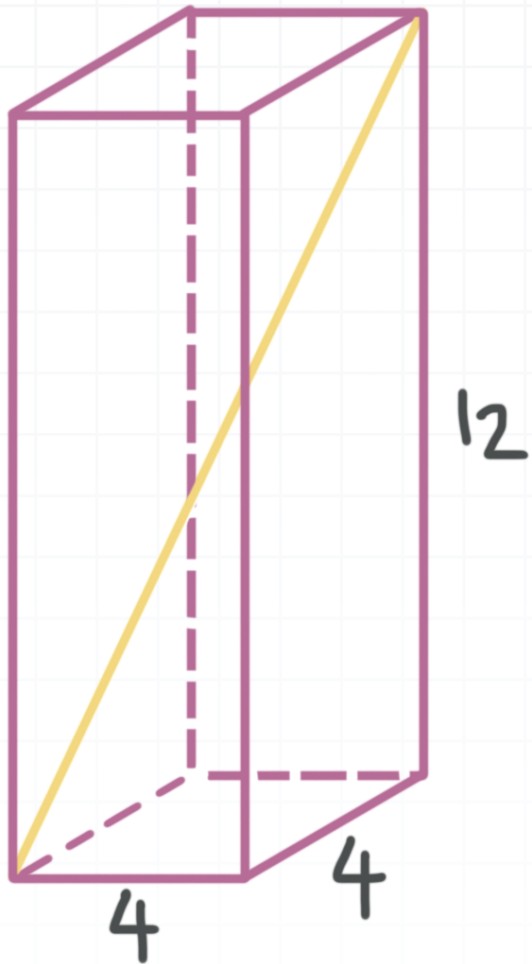
## DIAGONAL OF A RIGHT RECTANGULAR PRISM

- 1. Find the length of  $BH$  in the right rectangular prism.



- 2. Find the length of the diagonal of a cube with side length 10.
- 3. If the length of the diagonal of a cube is  $4\sqrt{3}$ , find the length of each side of the cube.
- 4. Find the length of the diagonal of the right rectangular prism.





- 5. A right, rectangular prism has dimensions  $4 \times 5 \times x$ . Find the value of  $x$  if the diagonal is  $5\sqrt{2}$ .

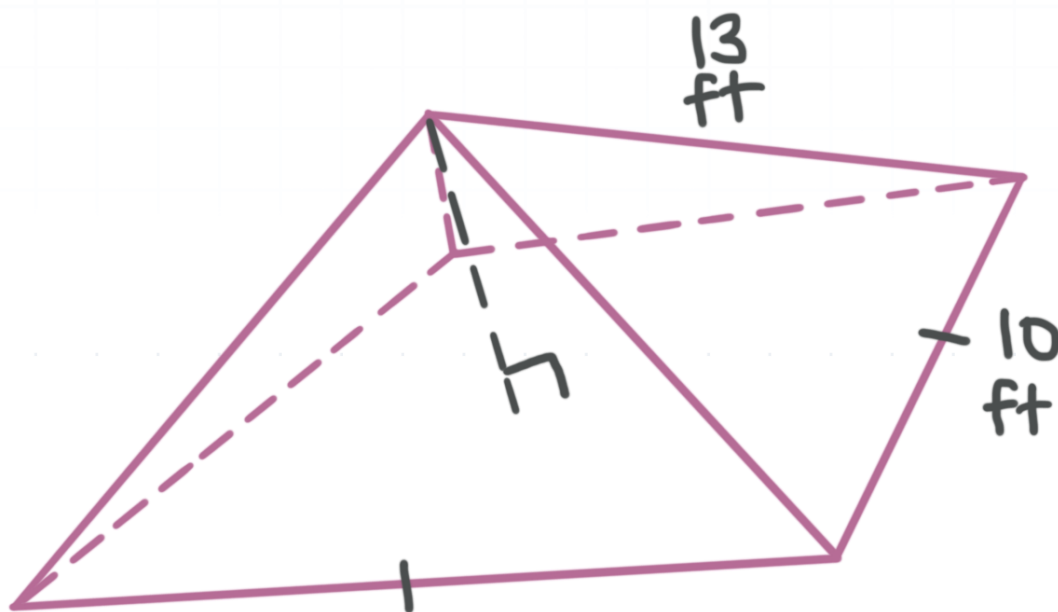


## NETS/VOLUME/SURFACE AREA OF PYRAMIDS

■ 1. A pyramid has a square base with area  $25 \text{ ft}^2$  and height 6 feet. Find the volume of this pyramid.

■ 2. A pyramid has a square base with area  $25 \text{ ft}^2$  and height 6 feet. Find the surface area of this pyramid.

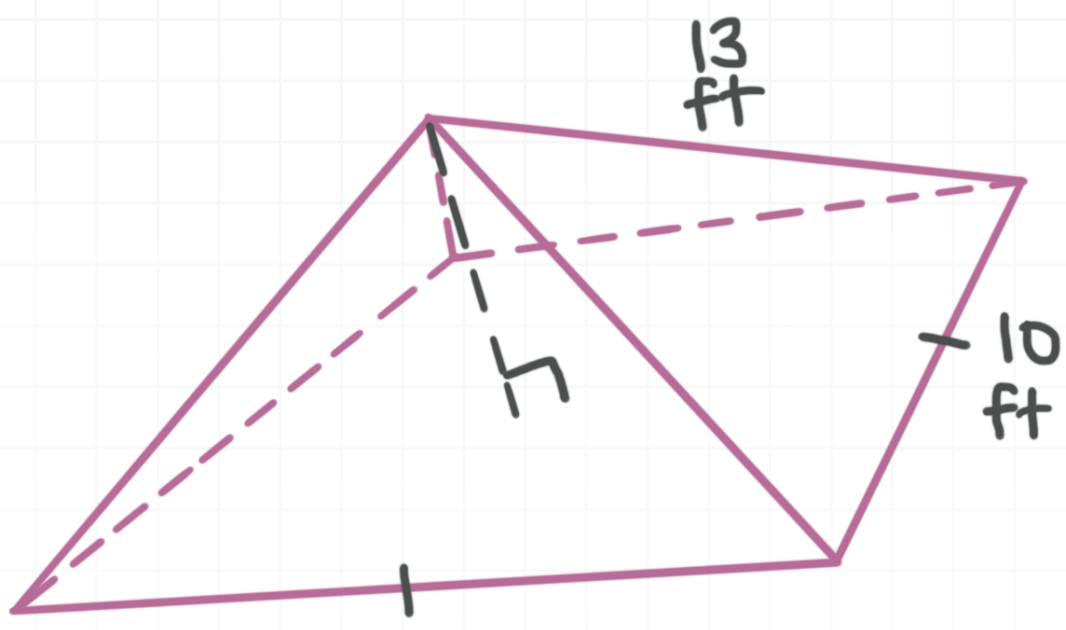
■ 3. Find the surface area of the pyramid.



■ 4. Find the height of the following pyramid to the nearest tenth. Then find its volume.

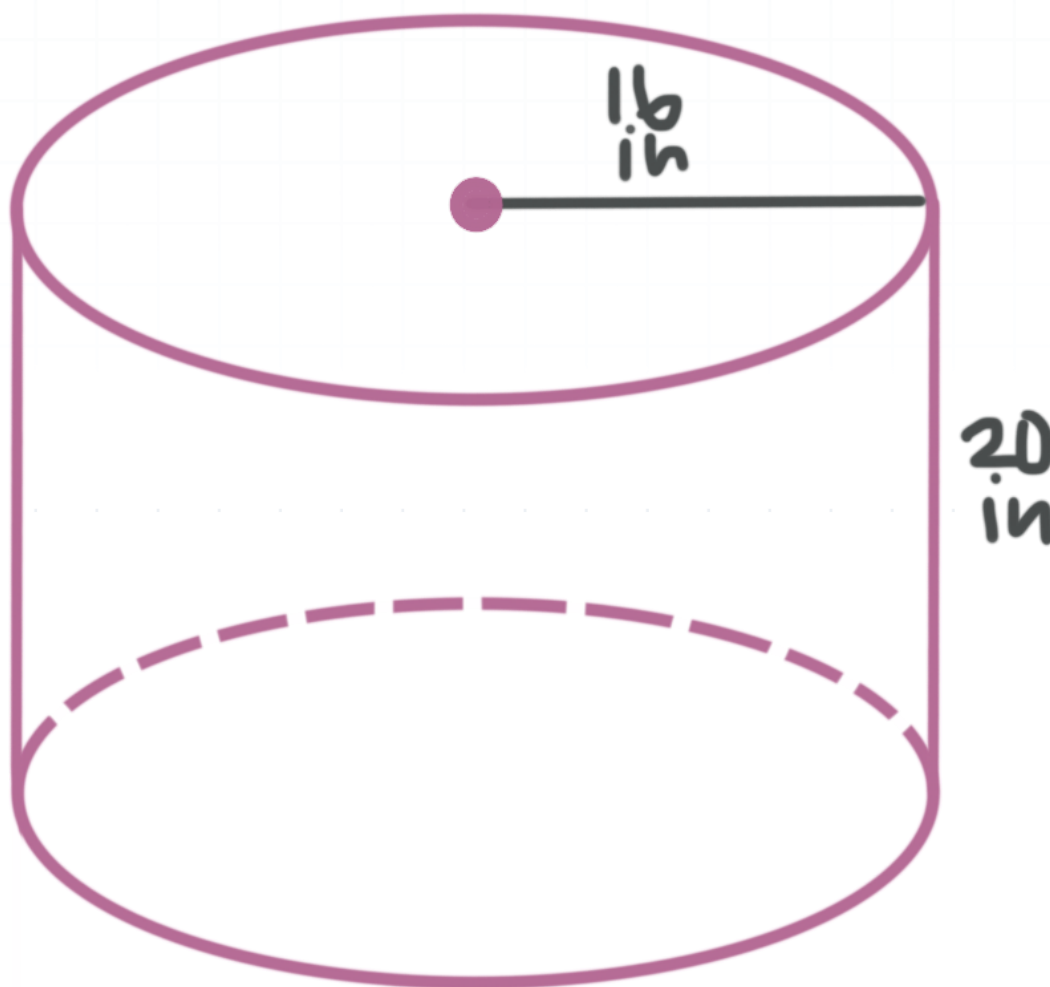






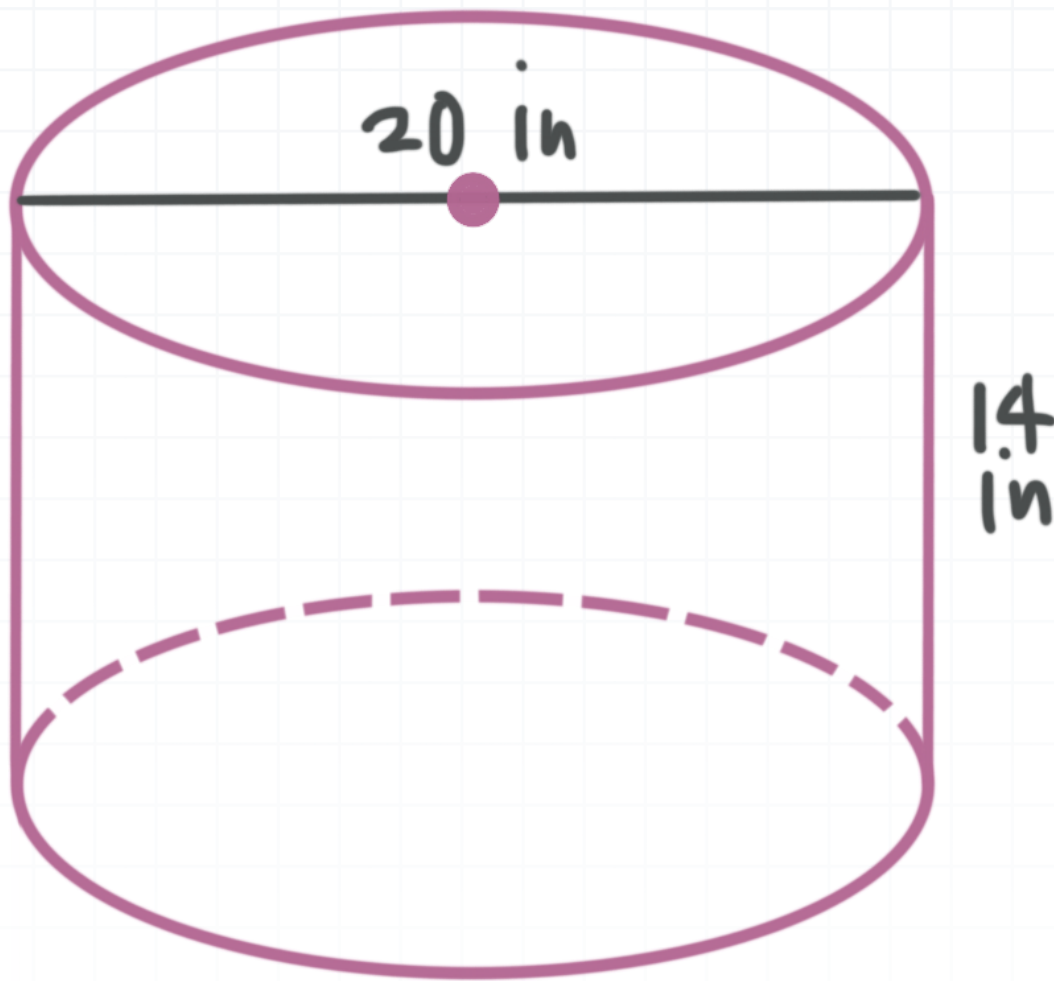
**NETS/VOLUME/SURFACE AREA OF CYLINDERS**

- 1. Find the volume of a cylinder with diameter 10 cm and height 12 cm.
- 2. Find the height of a cylinder with volume  $2,814.867 \text{ in}^3$  and radius 8.
- 3. Find the surface area of the cylinder.



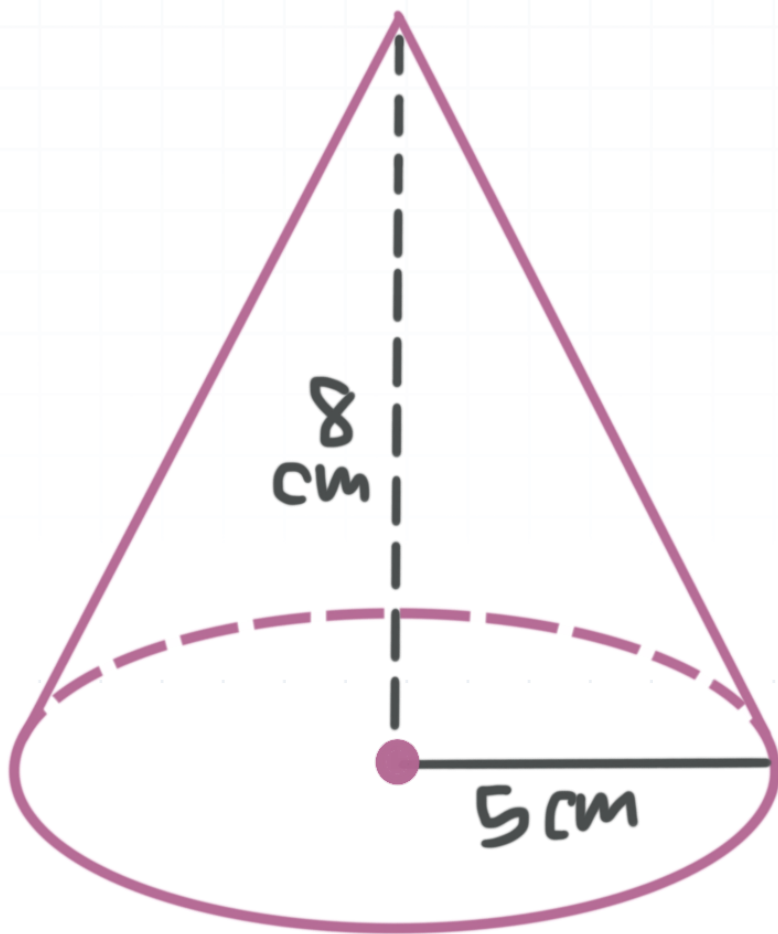
- 4. The circumference of the base of the cylinder is 62.832 inches. Find its volume.





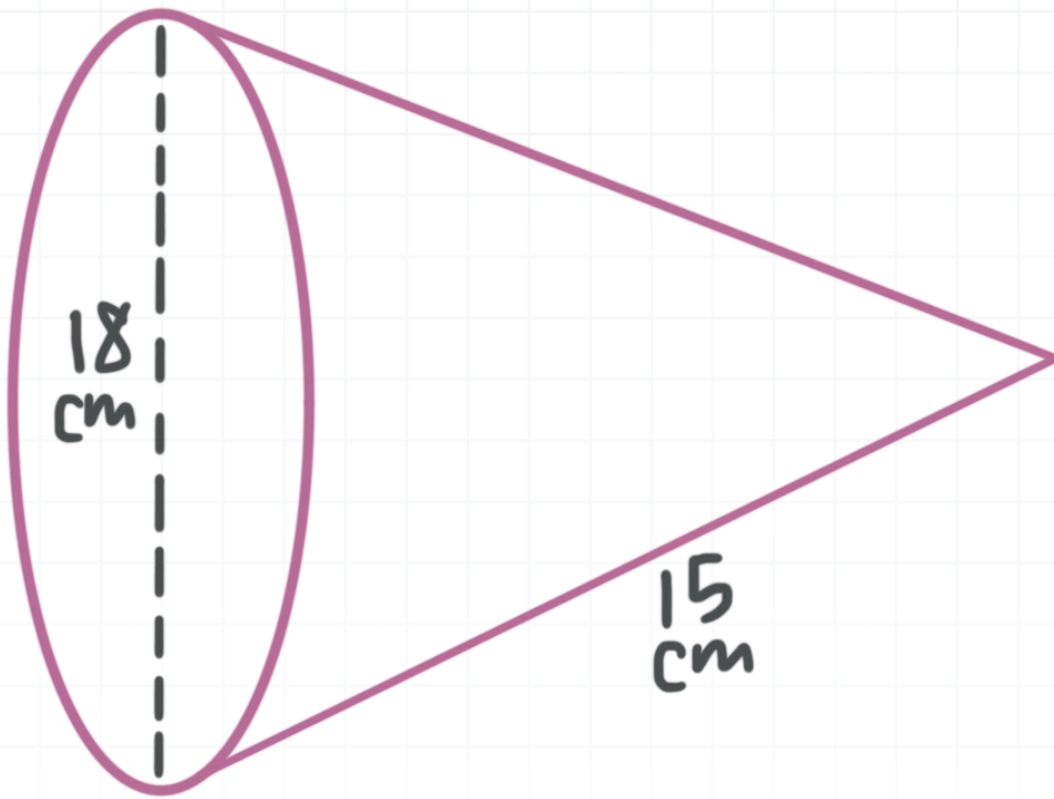
## NETS/VOLUME/SURFACE AREA OF CONES

- 1. Find the volume of a right cone with a height of 10.5 inches and a diameter of 8 inches at its base to the nearest hundredth.
- 2. Find the slant height of the cone.



- 3. Find the surface area of the cone in terms of  $\pi$ .





- 4. The volume of a cone is  $100\pi$ . Find the length of its radius if its height is 12.



## VOLUME/SURFACE AREA OF SPHERES

- 1. Find the volume to the nearest hundredth of a sphere with radius 15 inches.
  
- 2. A basketball has a diameter of 9.55 inches. Find its surface area to the nearest hundredth.
  
- 3. A sphere has radius 10. How much greater is the volume than the surface area in terms of  $\pi$ ?
  
- 4. A sphere has a volume of  $288\pi$ . Find its diameter.



