

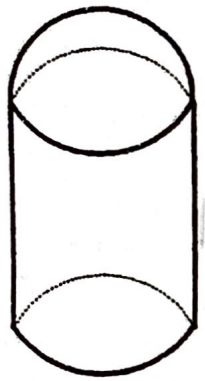
Leave answers in simplest form unless instructed otherwise. Remember to include units with your answers.

1. If a right cylinder has a lateral area of $40\pi \text{ m}^2$ and a volume of $320\pi \text{ m}^3$, what is the total area? $552\pi \text{ m}^2$

2. The base of a right pyramid is a regular pentagon of side 8 cm. The height of the pyramid is 11 cm. Find the lateral area and total area. Round to the nearest tenth. $L = 246.0 \text{ cm}^2$ / $T = 356.1 \text{ cm}^2$

3. If the radius of a sphere is 6 inches and a plane passes through the sphere at a distance of 4 inches from the center, what is the area of the circle of intersection?

4. Find the total area and volume of a prism with a base area of 36 mm^2 , base perimeter of 24 mm, and a height of 9 mm. 288 mm^2 / 324 mm^3



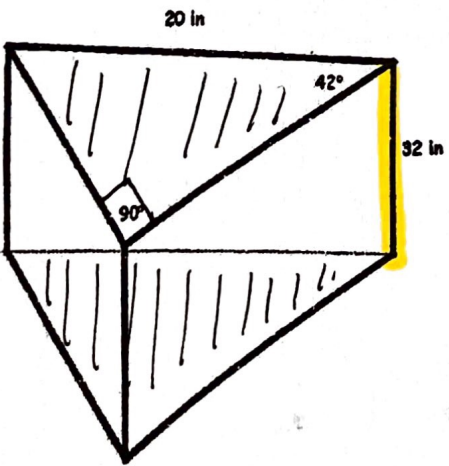
5. Farmer Fran wants to build a grain storage tank like the one shown. The tank is to be made of aluminum and Farmer Fran must allow 15% of the total surface area for waste and seams. The tank is in the shape of a cylinder covered by a hemisphere. If he wants the height of the cylinder to be 50 feet and the diameter to be 80 feet, how many square feet of aluminum will be required for its construction? Round your final answer to the nearest hundredth. $31,792.92 \text{ ft}^2$

6. At the end of harvest time, Farmer Fran's grain storage tank is 79% full. To the nearest hundredth, how many cubic feet of grain does Farmer Fran have stored in his tank? $304,441.27 \text{ ft}^3$

7. If the surface area of a right hexagonal pyramid is $(150 + 54\sqrt{3}) \text{ cm}^2$ and the perimeter of the base is 36 cm, what is the slant height of the pyramid? $l = 8 \frac{1}{3} \text{ cm}$

8. The volume of a right circular cone is $4374\pi \text{ mm}^3$. The height is 27 mm. Find the total area. $1254.86\pi \text{ mm}^2$

9. Find the total area and volume of the right triangular prism shown below. Round to the nearest tenth.



$T = 1742.6 \text{ in}^2$

$V = 3181.87 \text{ in}^3$