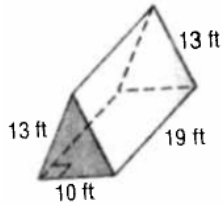


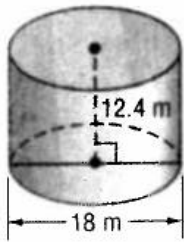
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Class: _____

Geometry
Unit 9
PS

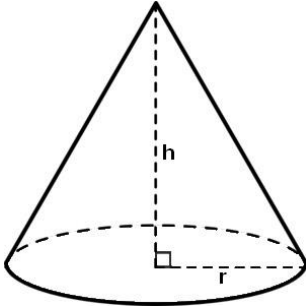
1) [4] Find the volume of:



2) [3] Find the surface area in terms of π of:



3) [4] If the slant height of this cone is 13 in and the angle between the slant height and the height is 22 degrees, find the surface area rounded to the nearest tenth:



4) [3] If a sphere has a diameter of 48m find the volume in terms of π

5) [3] Find the radius of a sphere to the nearest foot that has a volume of $100ft^3$.

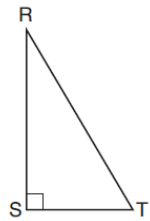
6) [4] Find the surface area of a square based pyramid with a base edge of 10cm and a slant height of 15cm.

7) [4] If the volume of a sphere is $972\pi \text{ ft}^3$ what is the surface area of that sphere?

8) [3] If the volume of a cone is $144\pi \text{ mm}^3$ and the radius is 8, what is its slant height (to the nearest tenth)?

9) [4] If a cube has a volume of 15625 in^3 what is its surface area?

10) [2] Which object is formed when right triangle RST shown below is rotated around leg \overline{RS} ?

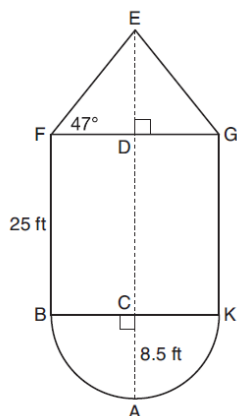


11) [2] Which figure can have the same cross section as a sphere?

12) [3] A gallon of paint will cover approximately 450 square feet. An artist wants to paint all the outside surfaces of a cube measuring 12 feet on each edge. What is the *least* number of gallons of paint he must buy to paint the cube?

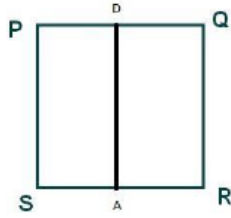
13) [6]

The water tower in the picture below is modeled by the two-dimensional figure beside it. The water tower is composed of a hemisphere, a cylinder, and a cone. Let C be the center of the hemisphere and let D be the center of the base of the cone.



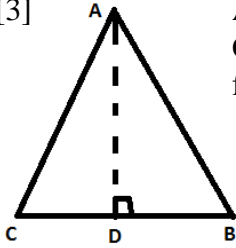
This water tower is designed to hold a maximum of 400,000 pounds of water. Water weighs 62.4 pounds per cubic foot. If the water tower is 85% full is it under or over the maximum weight it is designed to hold?

14) [4]



PQRS is a parallelogram with $PQ=QR$ and $\overline{PQ} \perp \overline{QR}$. If $PQ = 10\text{in}$ and PQRS is rotated continually around \overline{DA} what would the resulting volume be (D and A are midpoints of their respective sides)?

15) [3]



ABC is a isosceles triangle with $\overline{AC} \cong \overline{AB}$ and $\overline{AD} \perp \overline{CB}$. $CB = 10\text{in}$, if ABC is rotated continually around \overline{DA} what figure is created and what is its radius?

16) [5] A cone has an apex angle of 52° . The cone is cut parallel to the base so that the ratio of the height of cone that is removed to the height of the remaining portion is 4:11. The diameter of the cone that is removed is 18ft. What is the volume of the remaining figure?