

Honors Geometry Chapter 11 Review

Know all your formulas for LA, TA and Volume.

*All warm ups are good to review

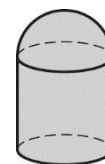
*Know how to do a 3D drawing on isometric grid paper.

Sample problems:

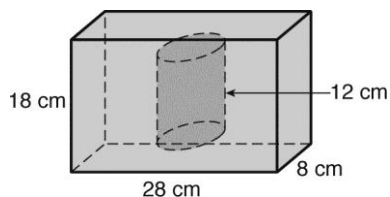
Find the volume and surface area of 1-6.

1. Cylinder with height 5 cm, radius 2 cm.
2. Triangular prism with height 10 in. and sides 6, 8, and 10 in.
3. Square based pyramid with height 4 cm and sides 3 cm.
4. Regular hexagonal prism with height 12 m and base edge 6 m.
5. Sphere with radius 5 in.
6. Cone with height 12 and radius 3.
7. A sphere has a volume of $300\pi \text{ cm}^3$. What is the radius?
8. A cone has a height of 12 m and a volume of $400\pi \text{ m}^3$. Find the slant height.
9. The volumes of two similar rectangular solids are 1500 cm^3 and 800 cm^3 . What is the ratio of their surface areas?

10. To the nearest cubic foot, what is the volume of the composite figure if both the height and the diameter of the cylinder are 1.5 feet?

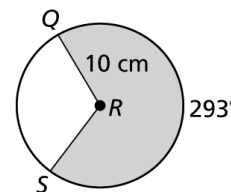


11. Determine the volume of a sphere with a great circle that has an area of $9\pi \text{ cm}^2$. Give the answer in terms of π .
12. To the nearest cubic centimeter, determine the volume of packing peanuts needed to fill the box if the radius of the enclosed cylinder is 4 centimeters and the cylinder is centered in the box.



13. Convert to degrees or radians. A) $\frac{23\pi}{12}$ B) -180°

14. Find the area of the shaded region and the arc length of QS (on the shaded part).



Answers:

1. $TA = 28\pi$, $V = 20\pi$
2. $TA = 288$, $V = 240$
3. $TA = 34.63$, $V = 12$
4. $TA = 108\sqrt{3} + 432$ or 619.06 , $V = 648\sqrt{3}$
5. $TA = 100\pi$, $V = 166.67\pi$
6. $TA = 46.10\pi$, $V = 36\pi$
7. $r = 6.08$
8. $l = 15.6$
9. $131.04/81.18$ or $1.1614/1$
10. 4 cu ft.
11. 36π cm³
12. 3429 cm³
13. A) 345° B) $-\pi$ rad
14. 81.39π and length = 16.27π