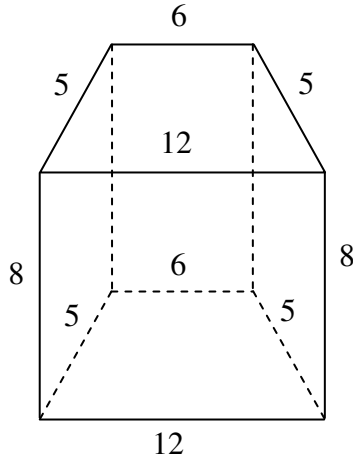
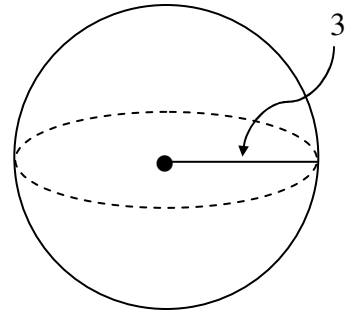


Geometry Review Worksheet

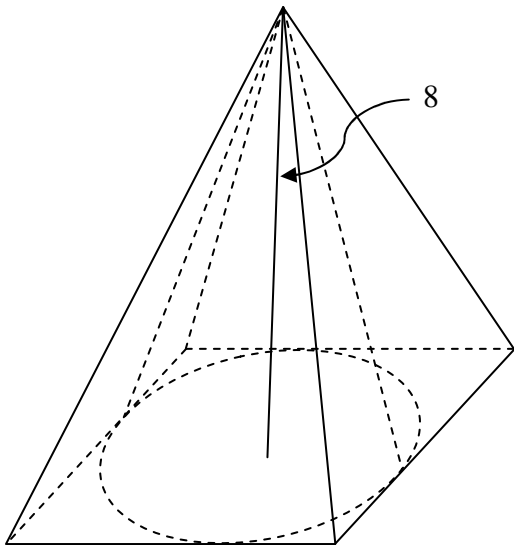
- (1) A right prism has isosceles trapezoids for bases. The parallel edges of each base measure 6 and 12, while the two nonparallel edges measure 5. The height of the prism is 8. Find the; (a) LSA , (b) TSA , and (c) volume of the prism.



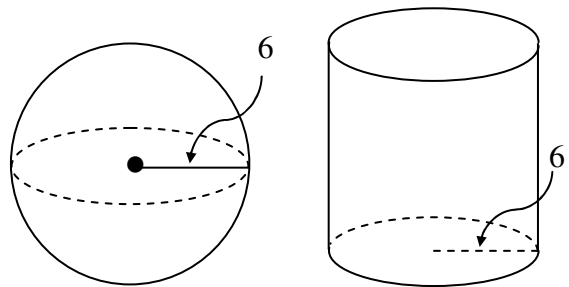
- (2) The radius of a sphere is 3. Find its volume and total surface area.



- (3) A right cone is inscribed in a right square pyramid so that they have the same vertex, and the base of the cone is inscribed in the base of the pyramid. The area of the base of the pyramid is 144, and the common altitude is 8. Find the volume and total surface area of each.

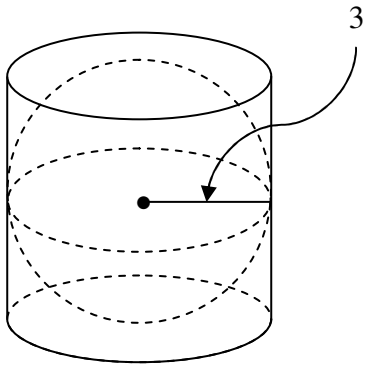


- (4) A sphere has a radius of 6. A right cylinder, having the same radius, has the same volume. Find the height and TSA of the cylinder.



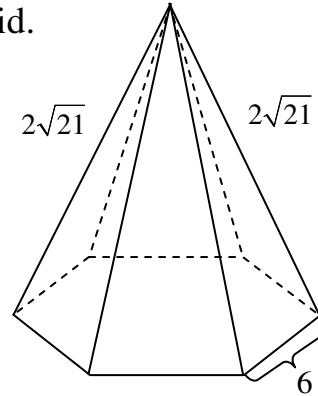
(5)

A sphere whose radius is 3 is inscribed inside a right cylinder so that the sphere is tangent to both bases and the sides of the cylinder. Find the volume between the cylinder and sphere.

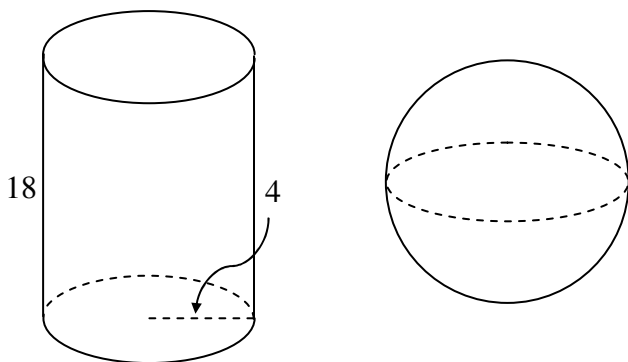


(6)

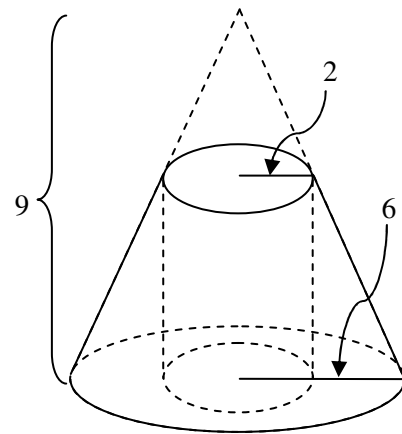
A right pyramid has a regular hexagon for a base. Each edge of the base is 6, and each lateral edge measures $2\sqrt{21}$. Find the; (a) LSA , (b) TSA , and (c) volume of the pyramid.



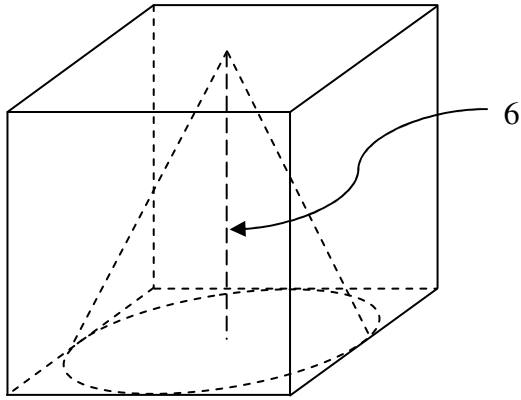
(7) A solid metal right cylinder is melted and re-cast as a sphere. The radius of the cylinder was 4 and the height was 18. Find the volume and surface area of the sphere.



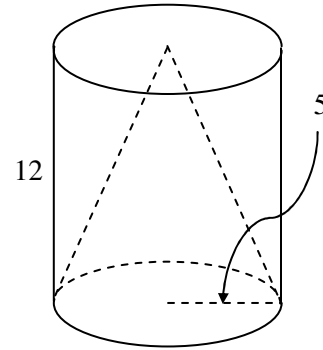
(8) The radius of the base of a right cone is 6 and the height is 9. A cylindrical hole of radius 2 is drilled through the center of the base of the cone. Find the volume of the remaining solid.



- (9) A right cone is inscribed in a cube so that they have the same height, and the base of the cone is inscribed inside the base of the cube. The height of the cone is 6. Find the volume between the cube and cone.

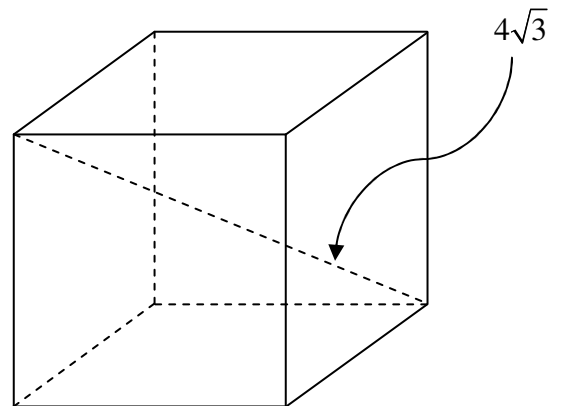


- (10) A cone is inscribed inside a right cylinder so that they have the same base, and the vertex of the cone is at the center of the top base of the cylinder. The height of the cylinder is 12, and the radius of the base is 5. Find the total surface area of the cylinder and cone.



(11)

- (12) Find the LSA , TSA , and volume of a cube if the length of one diagonal of the cube is $4\sqrt{3}$.



Answers

(1) (a) L.S.A. = 224 (b) T.S.A. = 296 (c) Volume = 288

(2) Volume = 36π , T.S.A. = 36π

(3) $V_{\text{pyr}} = 384$, $\text{T.S.A.}_{\text{pyr}} = 384$, $V_{\text{cone}} = 96\pi$, $\text{T.S.A.}_{\text{cone}} = 96\pi$

(4) height = 8 , $\text{T.S.A.}_{\text{cyl}} = 168\pi$

(5) $V_{\text{cyl}} = 54\pi$, $V_{\text{sphere}} = 36\pi$, $V_{\text{between}} = 18\pi$

(6) (a) L.S.A. = $90\sqrt{3}$ (b) T.S.A. = $144\sqrt{3}$ (c) Volume = 216

(7) $V_{\text{sphere}} = 288\pi$, $\text{T.S.A.}_{\text{sphere}} = 144\pi$

(8) $V_{\text{rem}} = 80\pi$

(9) $V_{\text{between}} = 216 - 18\pi$

(10) $\text{T.S.A.}_{\text{cylinder}} = 170\pi$, $\text{T.S.A.}_{\text{cone}} = 90\pi$

(12) L.S.A. = 64 , T.S.A. = 96 , Volume = 64