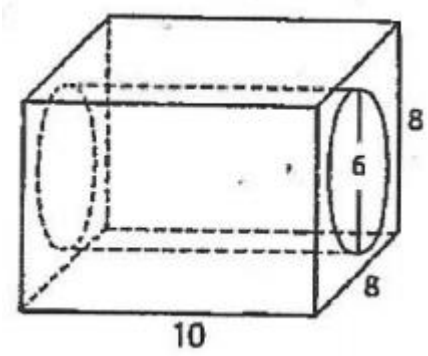
CHAPTER 11 EXTRA PRACTICE PROBLEMS

1. A tetrahedron has edge length 6. Find the height and surface area of the tetrahedron.

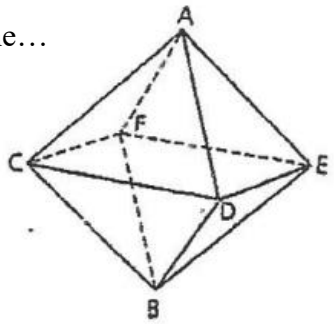
2. When Hilda computed the volume and surface area of a cube, both answers had the same numerical value. Find the length of one side of the cube.

3. Find the surface area of the figure.

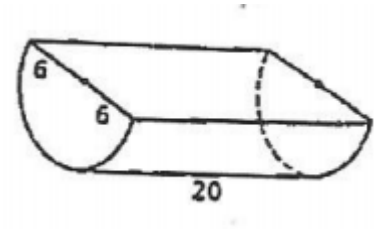


4. Each lateral edge of a regular square pyramid is 3, and the height of the pyramid is 1. What is the…
   a. Measure of a diagonal of the base?
   b. Pyramid's slant height?
   c. Area of the base?
   d. Pyramid's lateral area?

5. A regular octahedron (shown at right) has edge length 6. What is the…
   a. Total surface area?
   b. Distance from C to E?
   c. Distance from A to B?
   d. Shape of quadrilateral ACBE?



6. Find the volume and surface area of the solid.



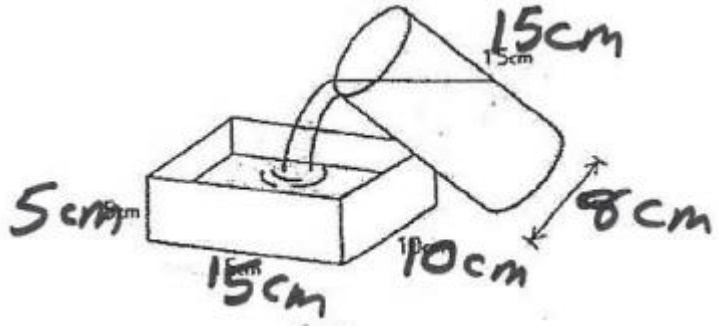
7. Graph (4, 6, 3)

8. Find the distance between (2, 3, 7) and (9, 10, 10)

9. Find the midpoint of the segment whose endpoints are (2, 5, 3) and (8, 8, 10)

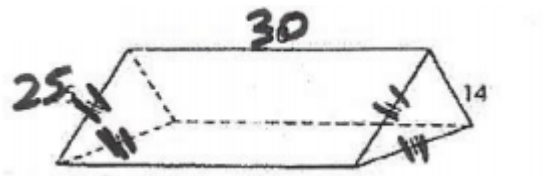
10. Find the endpoint of the segment whose midpoint if (6.5, 9, 12.5) and with one endpoint (9, 12, 15)

11. A cylindrical glass is full of water, which is poured into a rectangular pan. Will the pan overflow?



12. Find the total area of a tetrahedron with side 9.

13. Find the volume of the figure.

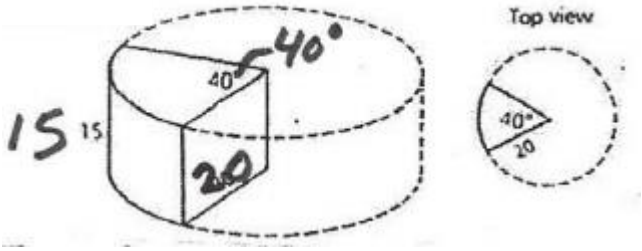


14. Find the circumference of a sphere with surface area 60π

15. Find the height of a regular hexagonal prism with lateral area 1368 m^2 and base edges 12 m.

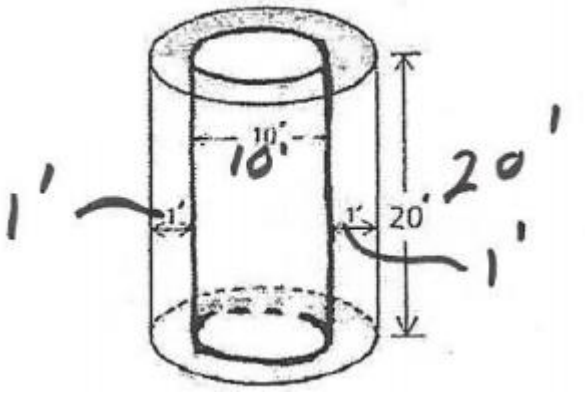
16. Find the surface area of a cone with height 20 and volume 1500π

17. A wedge of cheese is cut from a cylindrical block, as shown. Find the surface area of the wedge.



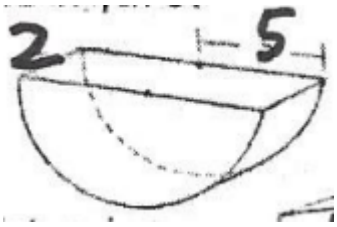
18. An ice cream cone is 9 cm deep and 4 cm across the top. A single scoop of ice cream, 4 cm in diameter, is placed on top. If the ice cream melts into the cone, will it overflow?

19. Find the volume of air between the 2 cylinders.

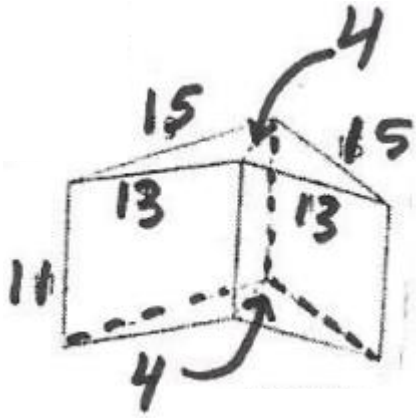


20. The lateral area of a right rectangular prism is 144 cm^2. Its length of 3 times the width and its height is twice its width. Find the surface area.

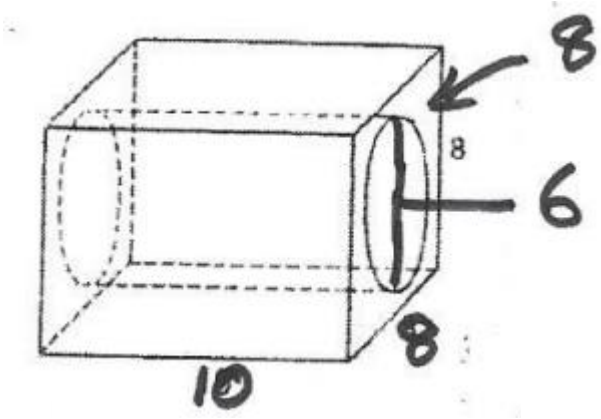
21. Find the total surface area of this figure.



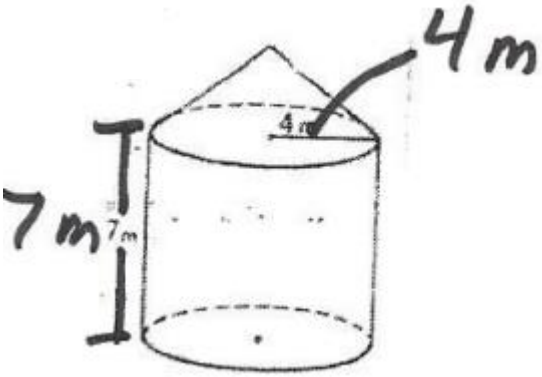
22. Find the surface area of this right prism.



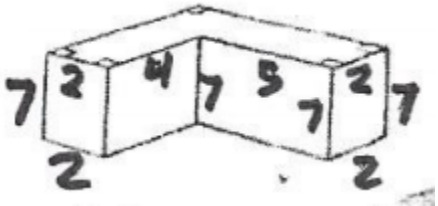
23. Find the surface area of the figure.



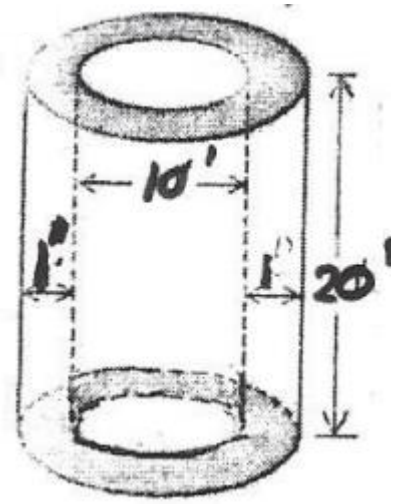
24. The total height of the water tower shown is 10 m. If one liter of paint will cover an area of 10 m^2, how many one liter cans of paint are needed to paint the tower?



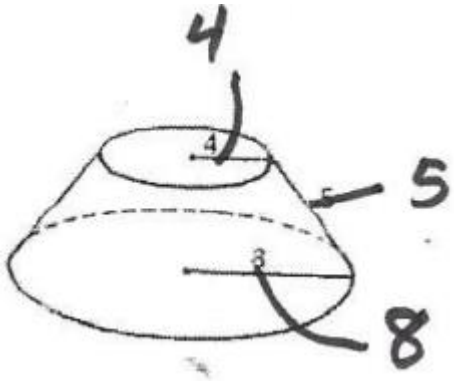
25. Find the surface area of the right prism.



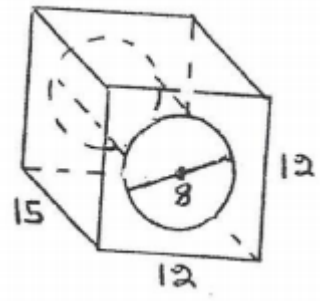
26. Find the surface area of the cylindrical shell.



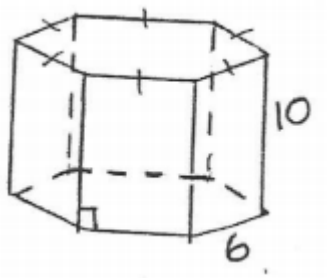
27. Find the surface area of the right frustum.



28. Find the surface area of the figure.



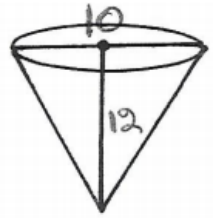
29. Find the surface area of the figure.



30. Find the volume of a cone with base diameter 28 and slant height 50.

31. Find the radius of a sphere whose surface area is 144π in^2.

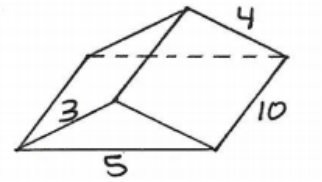
32. Find the surface area of this cone.



33. Find the volume of a cylinder whose lateral area is 80π and whose height is 10.

34. Given a regular square pyramid with slant height 10 and base edge 16, find its lateral area, surface area, and volume.

35. Find the lateral area and surface area of this figure.



36. Find the surface area of a conical frustum whose bases have radii 2 and 6 and whose slant height is 8.

37. Find the volume of an octahedron with side length 6.

38. Find the surface area of a tetrahedron with side length 8.