Warmups:

Write all the formulas for this chapter.

Do the following problems - Page 520 #1-3

Indicate the best answer by writing the appropriate letter.

1. A cone has volume 320π and height 15. Find the total area.
   (A) 200π **(B)** 368π **(C)** 264π **(D)** 136π **(E)** 320π
2. Two equilateral triangles have perimeters 6 and $9\sqrt{3}$. The ratio of their areas is:
   (A) $2:3\sqrt{3}$ **(B)** $2\sqrt{3}:9$ **(C)** $4:27$ **(D)** $4:9$ **(E)** $8:81\sqrt{3}$
3. A sphere has volume 288π. Its diameter is:
   (A) $12\sqrt{6}$ **(B)** $6\sqrt{2}$ **(C)** 6 **(D)** $12\sqrt{2}$ **(E)** 12

Prisms

$\mathrm{LA} = \mathrm{Ph}$

$\mathrm{TA} = \mathrm{LA} + 2B$

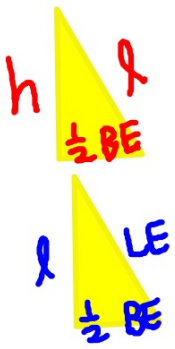
$V = \mathrm{Bh}$

Pyramids

$\mathrm{LA} = \frac{1}{2}\mathrm{Pl}$

$\mathrm{TA} = \mathrm{LA} + B$

$V = \frac{1}{3}\mathrm{Bh}$



Cubes

$\mathrm{LA} = 4s^2$

$\mathrm{TA} = 6s^2$

$V = s^3$

Cylinders

$\mathrm{LA} = \mathrm{Ch}$

$\mathrm{LA} = 2\pi\mathrm{rh}$

$\mathrm{TA} = \mathrm{LA} + 2\pi r^2$

$V = \ = \pi r^2 h$

Cones

$\mathrm{LA} = \frac{1}{2}\mathrm{Cl}$

$\mathrm{LA} = \pi\mathrm{rl}$

$\mathrm{TA} = \mathrm{LA} + \pi r^2$

$V = \frac{1}{3}\pi r^2 h$

Spheres

$\mathrm{TA} = 4\pi r^2$

$V = \frac{4}{3}\pi r^3$

22. A right pentagonal prism has height 12 and base edges 1.3, 2.4, 6.3, 3.2, and 4.1. Find the lateral area. _____

23. Find the lateral area, total area, and volume of a cone with radius 21 and slant height 29.

L.A. = _____, T.A = _____, V = _____

24. Find the volume and total area of a rectangular solid with length 6 cm, width 4 cm, and height 2 cm.

V = _____, T.A. = _____

25. Find the volume and lateral area of a regular square pyramid with base edge 6 cm and slant height 9 cm.

V = _____, L.A. = _____

26. Find the volume and lateral area of a cylinder with radius 3 cm and height 10 cm.

V = _____, L.A. = _____

27. Find the volume and area of a sphere with radius 11 cm.

V = _____, A = _____

28. Find the area of the circle formed when a plane passes 4 cm from the center of a sphere with radius 5 cm. _____

29. Find the total area of a cube with volume 125 cm^3. _____

30. Two similar cones have volumes 27π and 64π. Find the ratio of:

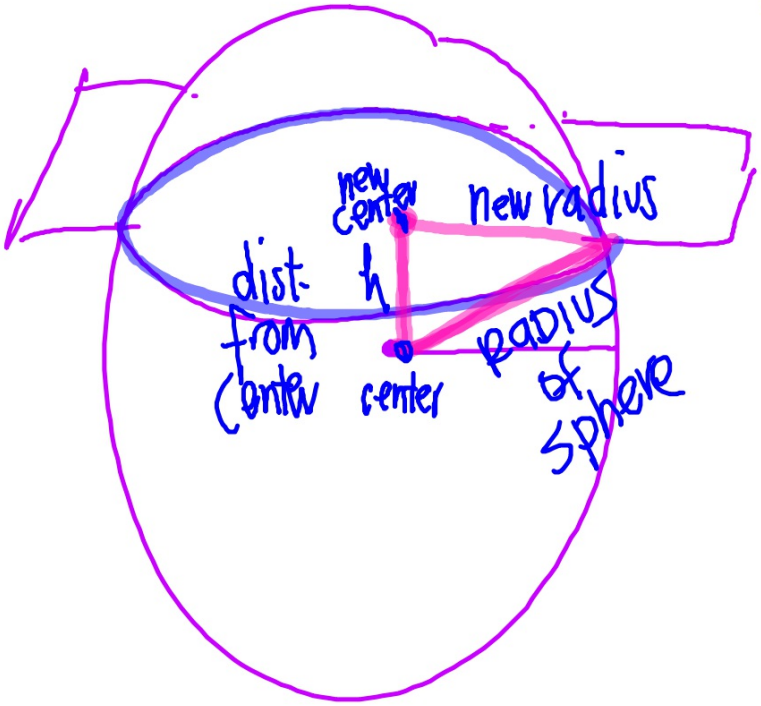
a. the radii _____ **b.** the heights _____ **c.** the lateral areas _____

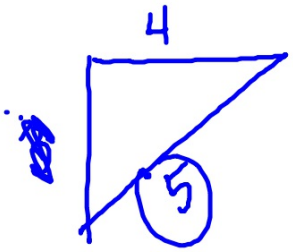
31. Two similar cylinders have lateral areas 16 cm^2 and 25 cm^2. Find the ratio of their volumes. _____

32. The volumes of two similar solids are 216 cm^3 and 64 cm^3. Find the ratio of their total areas. _____

33. Two similar prisms have heights 18 m and 24 m. If the volume of the smaller prism is 54 m^3, find the volume of the larger prism. _____

Homework 12.5d
Page 519
#2, 4-6, 10-13


new center
new radius
dist. from center
h
center
radius of sphere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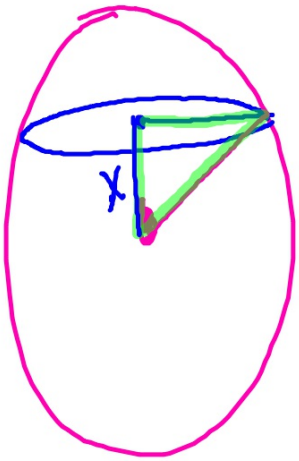
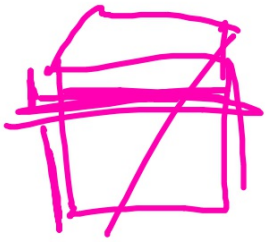
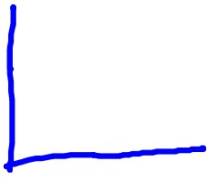

x



$\frac{14}{20}$ (V)

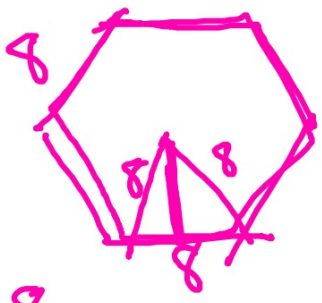
4cm

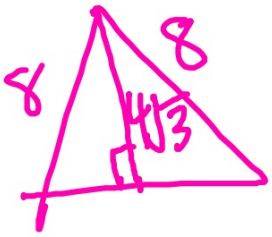
r=10



$\frac{1}{2}AP$

$\frac{1}{2} 4\sqrt{3} \cdot 48$





$4\sqrt{3} \cdot 8$

$A_{hex} = 96\sqrt{3}$

Prism

$H = 10$

$LA = P \cdot h = 48 \cdot 10 = 480$

$TA = LA + 2B$

$480 \quad 192\sqrt{3}$

$V = Bh$

$96\sqrt{3}\, h =$

$960\sqrt{3}$