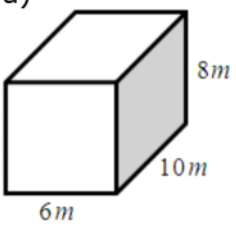
CH9 Review

April 20, 2018 9:38 AM

Math 8 **Chapter 7 Review**

1. Determine the volume.

a)

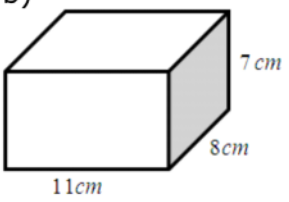


$V = l \times w \times h$

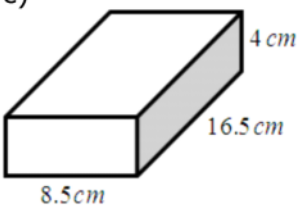
$= 6m \times 10m \times 8m$

$= 480\ m^3$

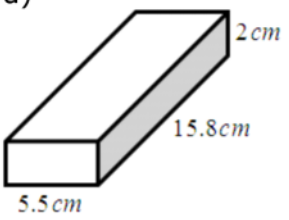
b)



c)

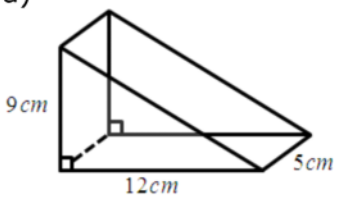


d)

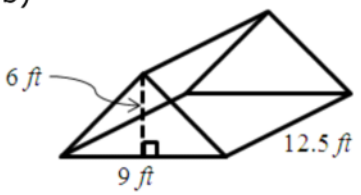


2. Determine the volume.

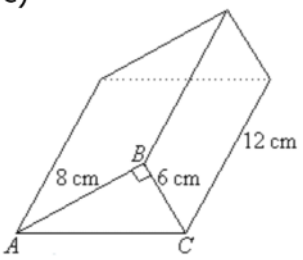
a)



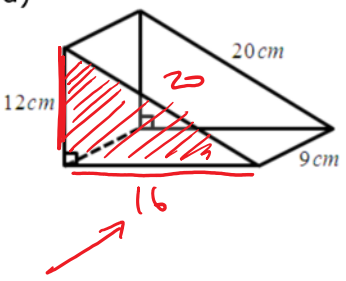
b)



c)



d)

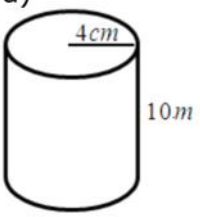


$Vol = \left(\frac{12 \times 16}{2}\right) \times 9$

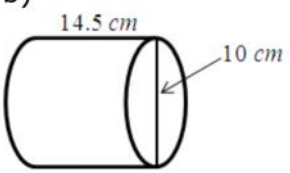
1

3. Determine the volume.

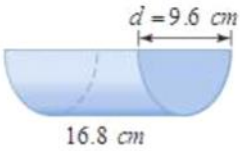
a)



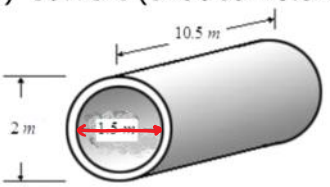
b)



c)



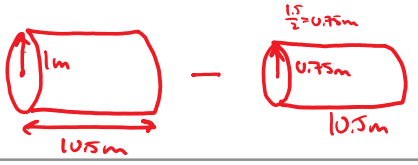
d) Culvert (shaded volume)



$\pi(1)^2(10.5) - \pi(0.75)^2(10.5)$

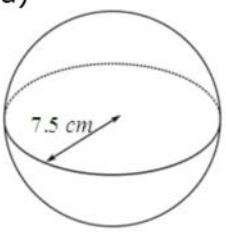
$10.5\pi - 5.90625\pi$

$= 4.59375\pi \text{ m}^3$

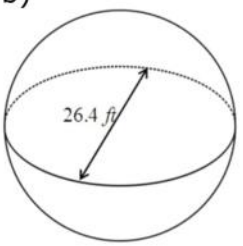


4. Determine the volume.

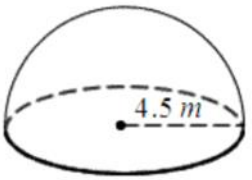
a)



b)



c)

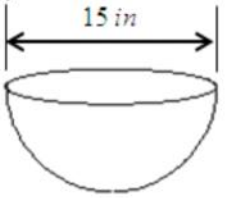


$V = \frac{4}{3} \times \pi \times R^3 \times \left(\frac{1}{2}\right)$

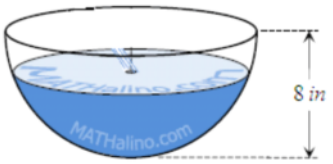
$V = \frac{4}{3} \times \pi \times (4.5)(4.5)(4.5) \times \left(\frac{1}{2}\right)$

$=$

d)



5. A 8 inch spherical bowl has juice that is 2/3 full. What's the volume of the juice?



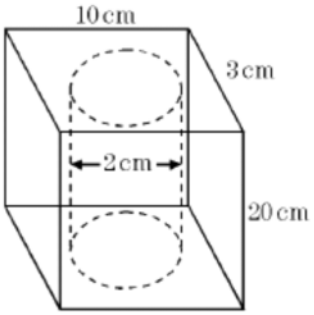
$R = 8$

$$V = \frac{4}{3}\pi R^3 \times \left(\frac{1}{2}\right) \times \left(\frac{2}{3}\right)$$

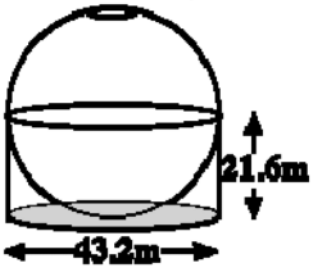
$$V = \frac{4}{3} \times \pi \times 8 \times 8 \times 8 \times \frac{1}{2} \times \frac{2}{3}$$

$$V = \_\_\_\_\_ \pi \text{ inch}^3$$

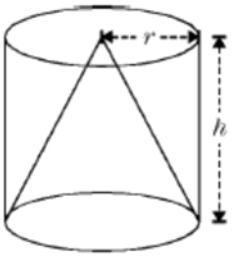
6. A cylinder is cut from rectangular prism as shown. What is the volume of the remaining rectangular prism?



7. Half a sphere is inside a cylinder as shown. What is the remaining volume inside the cylinder that is not occupied by the sphere?



8. A cone with radius r= 5 cm and height h = 10 cm just fits inside a cylinder with the same radius and height. What is the volume in the cylinder that is not occupied by the cone?

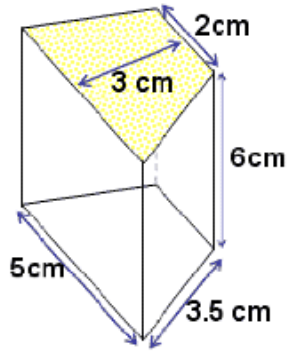


9. A prism has volume of $4576\ cm^3$ and a base area of $352\ cm^2$, find the height of the prism.

10. A rectangular pool has a volume $1620\ m^3$, the width measures 9 m and the length is 15 m. How deep is it?

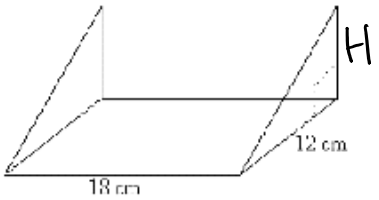
11. A cylindrical volume is $5664.7\ cm^3$ and it has a base area $306.2\ cm^2$. Determine the height of the cylinder.

12. Find the volume of the trapezoidal prism.



13. A square base rectangular box can hold $3197.4\ cm^3$ of material with the height measuring 15 cm. Find length of the sides of the base.

14. The volume of the triangular prism shown below is $972\ cm^3$. Determine the height of the triangle.



$\frac{H \times 12}{2} \times 18 = 972$

$H \times 6 \times 18 = 972$

$H = \frac{972}{18 \times 6}$

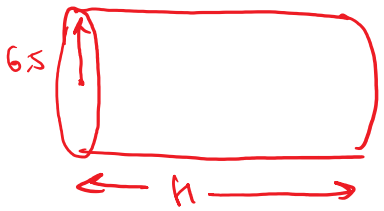
$H = \_\_\_\_$

15. Six Toblerone chocolate bars are put together to form a hexagonal prism. The dimensions of a single bar are given below. Determine the volume of a box of six.

16. A side of an equilateral triangular sandbox measures 3 ft in length and 2 ft deep. If the box is 90% filled with sand, then what is the volume of sand?

17. If the surface area of a cube is $150\,cm^2$, then determine the volume of the cube.

18. If the surface area of a cylinder is $338\pi\,cm^2$ with a radius of 6.5 cm, then find the volume of the cylinder.



$\pi R^2 + 2\pi R \times H = 338\pi$

$\pi(42.25) + 13\pi \times H = 338\pi$

$13\pi \times H = 338\pi - 42.25\pi$

$13\pi \times H = 295.75\pi$

$H = \frac{295.75\pi}{13\pi}$

$H = 22.75\,cm$

$V = \pi \times R^2 \times H$

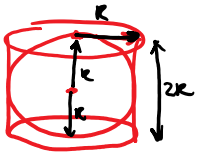
$V = \pi \times 6.5^2 \times 22.75$

$V = 961.1875\pi\,cm^3$

19. If the surface area of a sphere is $334\pi\,cm^2$, then determine the volume of the sphere.

① Surface Area of a Sphere $= 4 \times \pi \times R^2$

$V = \frac{4}{3} \times \pi \times R^3$



$2\pi R \times (2R)$

$4\pi \times R^2$

$4 \times \pi \times R^2 = 334\pi$

$R^2 = \frac{334\pi}{4\pi}$

$R^2 = 83.5$

$R = 9.137\,cm$