Volumes of Prisms, Cylinders, Pyramids, Cones and Spheres

Homework Answers

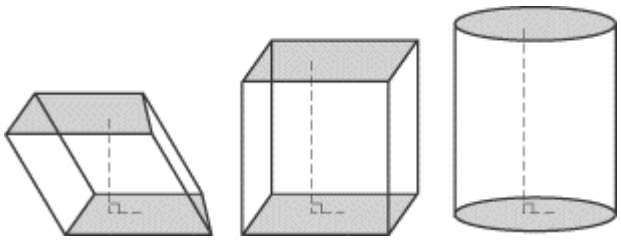
Pg 547 - #1-11

Pg 554 - #5-13

Pg 561 - #12-17

Pg 547 - Volume of Prisms & Cylinders:

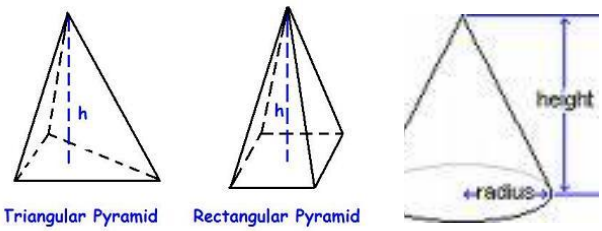
Product of the area of the base and the height of the prism. Base may be a triangle, rectangle, trapezoid, circle, etc. $A = B \cdot h$



1. 216 ft^3
2. 80 in^3
3. 180 m^3
4. 14 cm^3
5. about 280.6 cm^3
6. 22.5 ft^3
7. 720 mm^3
8. 22.5 in^3
9. $288\pi\ in^3$, 904.8 in^3
10. $40\pi\ cm^3$, 125.7 cm^3
11. $37.5\pi\ m^3$, 117.8 m^3

Pg 554 – Volume of pyramids and cones

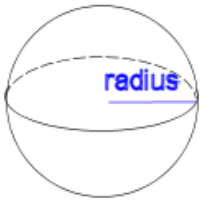
One-third product the area of the base and the height of the pyramid/cone. $A = \frac{1}{3}Bh$



5. about 443.7 cm^3
6. 300 in^3
7. 2048 m^3
8. about 363.6 m^3
9. about 3714.5 mm^3
10. about 562.9 ft^3
11. $\frac{16}{3}\pi\ ft^3$, 17 ft^3
12. $\frac{22}{3}\pi\ in^3$, 23 in^3
13. $36.75\pi\ in^3$, 115 in^3

Pg 561 – Volume of Spheres

Four thirds the product of π and the cube of the radius of the sphere. $A = \frac{4}{3}\pi r^3$



12. $\frac{500}{3}\pi\ ft^3; 524\ ft^3$
13. $288\pi\ cm^3; 905\ cm^3$
14. $\frac{1125}{2}\pi\ in^3; 1767\ in^3$
15. $\frac{2048}{3}\pi\ cm^3; 2145\ cm^3$
16. $2304\pi\ yd^3; 7238\ yd^3$
17. $98.784\pi\ m^3; 310\ m^3$