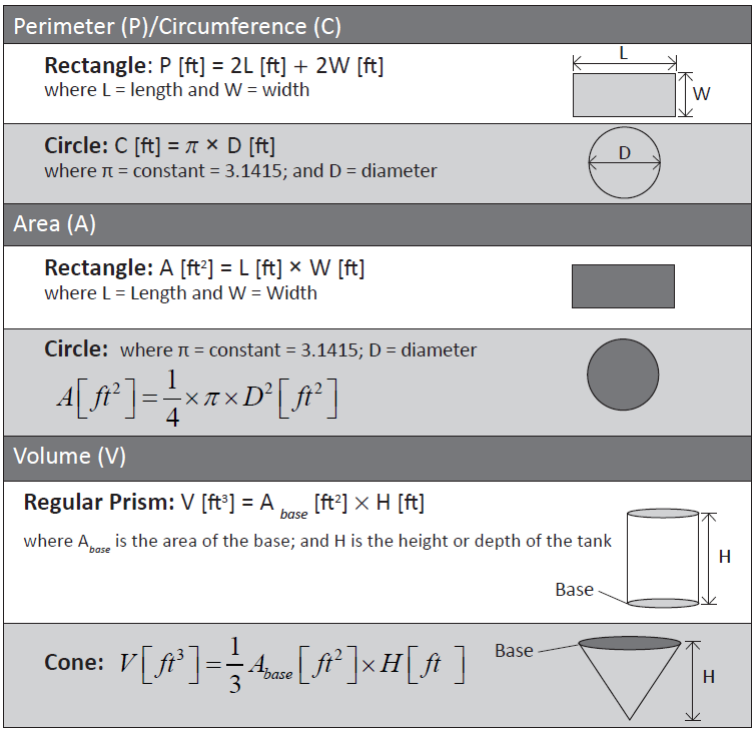
Other unit conversions may require multiplying by known constants along with conversion factors.

For example:

1. Converting 3.5 ft^3/sec to MGD:
   $$\frac{3.5\ \cancel{ft^3}}{\cancel{sec}} * \frac{7.48\ \cancel{gal}}{\cancel{ft^3}} * \frac{MG}{10^6\cancel{gal}} * \frac{1440*60\ \cancel{sec}}{day} = 2.3\ \ MGD$$
2. Converting 1,000 L water to lbs:
   $$1000\ \cancel{L} * \frac{\cancel{gal}}{3.785\ \cancel{L}} * \frac{8.34\ \ lbs}{\cancel{gal}} = 2,203\ \ lbs$$
   $(Note: 8.34\ \ lbs/gal\ \ is\ \ density\ \ of\ \ water - a\ \ constant)$

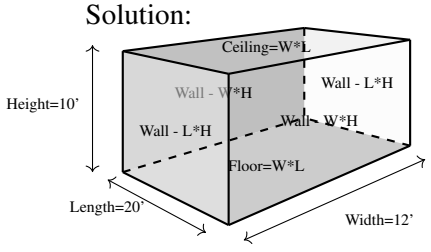
4.2 Area & Volume



4.2.1 Example Problems

1. The floor of a rectangular building is 20 feet long by 12 feet wide and the inside walls are 10 feet high. Find the total surface area of the inside walls of this building

   Solution:



   2 Walls W*H + 2 Walls L*H= $2*12*10ft^2 + 2*20*10ft^2$

   $= 240 + 400 = \boxed{640ft^2}$