

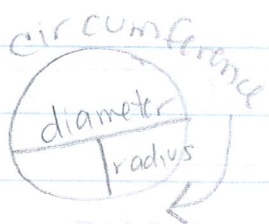
12/10 Geometry

similar shapes and scale drawings:  
use the given scale to set up a  
proportion to solve

creating a different scale  $\rightarrow$  convert  
to real dimensions first and rescale  
using new scale and proportions

dimensional = length and width  
(2 separate proportions)

Circles:  $\pi = \frac{C}{d}$  use  $\pi$  key!



$$d = 2r \text{ or } r = \frac{d}{2}$$

Circumference:  $C = \pi d$  or  $C = 2\pi r$

when given the circumference, divide  
by  $\pi$  to get diameter  $d = \frac{C}{\pi}$

Area:  $A = \pi r^2$

when given the area, take the square  
root to get radius



Composite figures:

$$A_{\square} = s^2 \quad A_{\square} = lw \quad A_{\Delta} = \frac{1}{2}bh$$

$$A_{\square} = bh \quad A_{\Delta} = \frac{1}{2}(b_1 + b_2)h \quad A_{\circ} = \pi r^2$$

Surface Area: the sum of all the areas of the faces of a prism

rectangular prism:  $l$   $w$   $h$   
 $2lw + 2lh + 2wh$

triangular prism:  $2\Delta + 3\square$

trapezoidal prism:  $2\text{trapezoid} + 4\square$

Volume:  $V = Bh$ .  $B$  = area of base shape

rectangular prism:  $V = lwh$

triangular prism:  $V = \frac{1}{2}lwh$

trapezoidal prism:  $V = \frac{1}{2}(b_1 + b_2)h \times h$   
of  $\Delta$       of prism

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

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

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