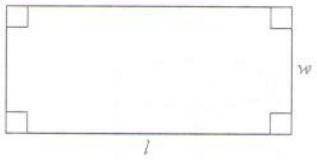
Unit 1 Geometry Formulas

I. Perimeter– distance around the outside

a. Rectangles:



$P = l + l + w + w$
$= 2l + 2w$

b. Circles: What is the "perimeter" of a circle called? Circumference

Ex $C = 18\pi$ in

$C = \pi \cdot d$ or $C = 2\pi r$

$d = 2r$

II. Area-- the # of square units that cover a surface

What units are used when dealing with area? $units^2$

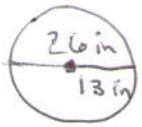
a. Rectangles: $A = l \cdot w$

Ex:

$A = 8 \cdot 7 = 56\ cm^2$

b. Circles: $A = \pi \cdot r^2$

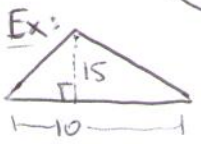
Ex:



$A = \pi(13)^2$
$= 169\pi\ in^2$

c. Triangles: $A = \frac{1}{2} b \cdot h$

Ex:

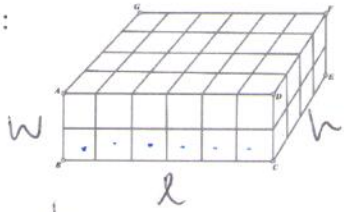


$A = \frac{1}{2}(10)(15)$
$= 75\ u^2$

III. Volume-- the amount of space inside a solid figure

What units are used when dealing with volume? $units^3$ (cubic)

a. Rectangular Prism:



$V = l \cdot w \cdot h$

Area of the base × the depth

Ex: $V = 2\ in \cdot 6\ in \cdot 4\ in$
$= 12\ in^2 \cdot 4\ in$
$V = 48\ in^3$

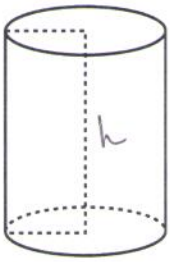
b. Sphere:
*given on formula sheet

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

c. Cylinder:
*given on formula sheet

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

Area of base



What shape does the cross-section of a cylinder, cut *horizontally* in the figure above, form? a circle