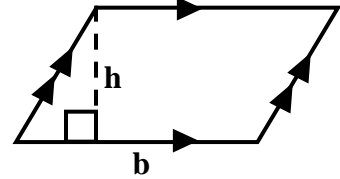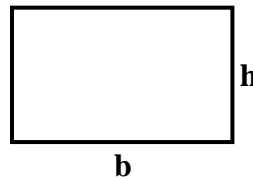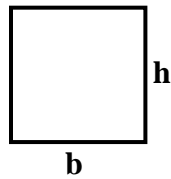# Chapter 10 Summary Sheet

Area Formulas
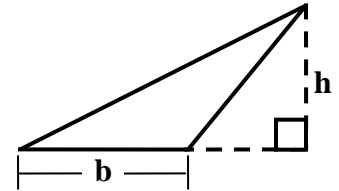
Area of a Square, Rectangle, and Parallelogram

Formula: A = bh

h

b

h

b

h

b

Area of a Triangle

Formula: $A = \dfrac{1}{2}bh$

h
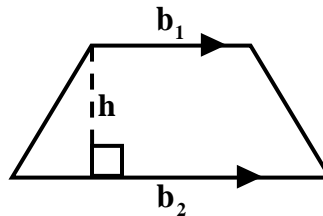
b

h

b

b

h
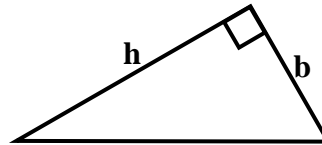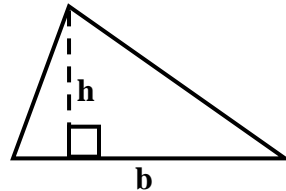
Important: The <u>base</u> and <u>height</u> of any polygon are <u>always perpendicular</u>.

Area of a Trapezoid
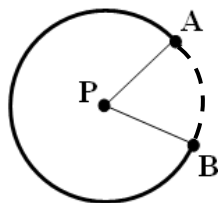
Formula: $A = \dfrac{1}{2}h(b_1 + b_2)$

b_1

h

b_2

b_1

h

b_2
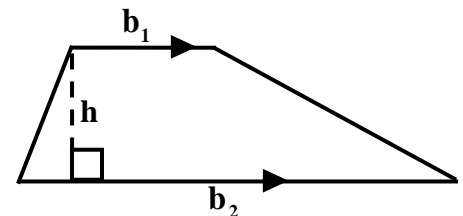
Area of a Rhombus and Kite

Formula: $A = \dfrac{1}{2}d_1d_2$

Note: d means diagonal

d_1

d_2

d_1

d_2
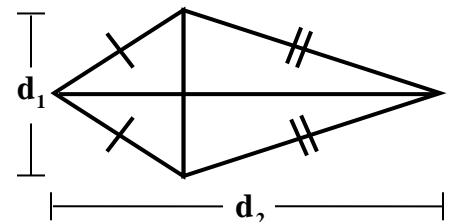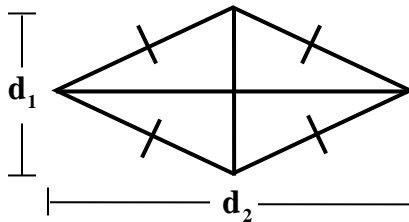
Arc Length Formula

$$\dfrac{mAB}{360°} = \dfrac{Arc\,length\,of\,AB}{2\pi r}$$

A

P

B

Area of a Sector Formula

$$\dfrac{mAB}{360°} = \dfrac{A_S}{\pi r^2}$$

A

P A_S

B
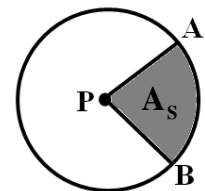
Important: Students are often confused with what the difference between **mAB, AB,** and **A$_S$** is.

mAB is the <u>degree</u> measure of an arc. **Ex:** 30°, 95°, 120°, 240°

AB is the <u>length</u> of an arc. **Ex:** 5 in., 10 cm, 24 units, 18π ft

A$_S$ is the <u>area</u> of a sector. **Ex:** 20 ft^2, 56 cm^2, 23 units^2, 60π m^2

Area of Circle: $A = \pi r^2$

Circumference (Perimeter) of Circle: $C = 2\pi r$
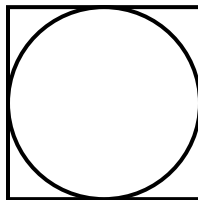
Ratio – fraction

   Ex: Ratio of x to y $\rightarrow$ $\dfrac{x}{y}$
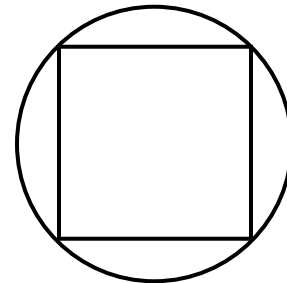
Inscribed – inside
Circumscribed - outside

   Ex: Circle Inscribed in a Square
              or
   Square Circumscribed about a Circle

   Ex: Circle Circumscribed about a Square
              or
   Square Inscribed in a Circle

Distance Traveled by Rolling Object Formula

   $\text{Distance} = \text{Revolution} \cdot 2\pi r$

When a circle rolls once completely the distance rolled is the circumference ($C = 2\pi r$) of the circle.

   1 revolution = $2\pi r$

1 revolution or rotation

Start Rolling $\longrightarrow$ **Stop**

$C = 2\pi r$