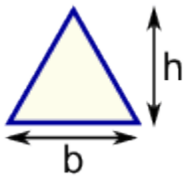
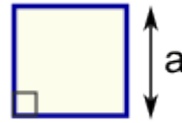


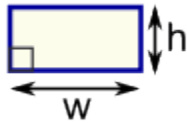
We will be working with triangles, rectangles, squares, and circles. Trapezoids, ellipses and sectors is extra material for the overachievers!!!!



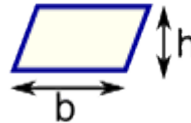
Triangle
 Area = $\frac{1}{2}b \times h$
 b = base
 h = vertical height



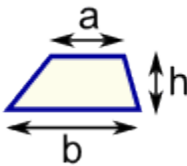
Square
 Area = a^2
 a = length of side



Rectangle
 Area = $w \times h$
 w = width
 h = height



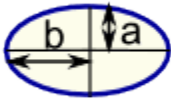
Parallelogram
 Area = $b \times h$
 b = base
 h = vertical height



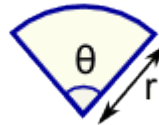
Trapezoid (US)
Trapezium (UK)
 Area = $\frac{1}{2}(a+b) \times h$
 h = vertical height



Circle
 Area = πr^2
 Circumference = $2\pi r$
 r = radius



Ellipse
 Area = πab



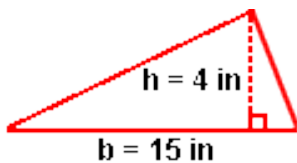
Sector
 Area = $\frac{1}{2}r^2\theta$
 r = radius

See Examples of the types of problems students will see below

- Area is the amount of square units within the shape.
- Perimeter is the distance around a shape
- Circumference is the distance around a circle
- Radius is a straight line from the center point of a circle to the edge of the circle
- Diameter is a straight line that from one edge of the circle to the other crossing the center point.

TRIANGLES

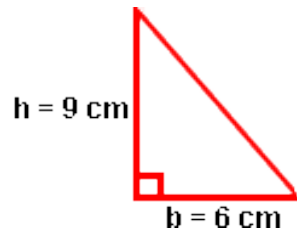
How to find the **area of a triangle**: In order to find the area of a triangle you must understand the formula first: A= stands for area, b = base, and h = height of the triangle.



$$\text{Area} = \frac{1}{2} \text{ base} \times \text{height}$$

$$A = \frac{1}{2} \times 15\text{in} \times 4\text{ in}$$

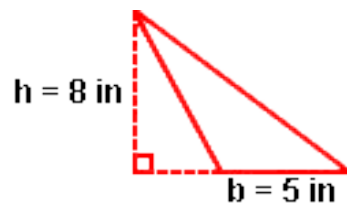
$$A = 30 \text{ square inches}$$



$$\text{Area} = \frac{1}{2} \text{ base} \times \text{height}$$

$$A = \frac{1}{2} \times 6\text{cm} \times 9\text{cm}$$

$$A = 27 \text{ square centimeters}$$



$$\text{Area} = \frac{1}{2} \text{ base} \times \text{height}$$

$$A = \frac{1}{2} \times 5\text{ in} \times 8\text{ in}$$

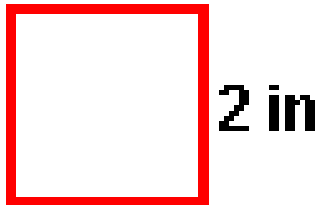
$$A = 20 \text{ square inches}$$

SQUARES & RECTANGLES

How to find the area of a square and rectangles: A square is a figure with four 90 degree angles and 4 equivalent sides. The formula to find the area of the square is $A = \text{side squared}$ or $A = S^2$ The formula for finding the

area of a rectangle is

$A = \text{Length} \times \text{Width}$ or $A = L \times W$



$$\text{Area} = S^2$$

$$A = 2 \text{ in} \times 2 \text{ in}$$

$$A = 4 \text{ square inches}$$



$$\text{Area} = \text{Length} \times \text{Width}$$

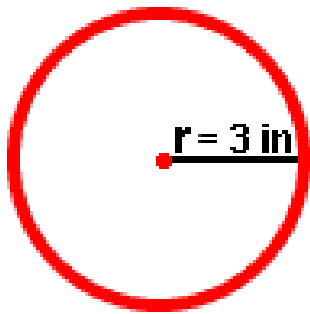
$$A = 8 \text{ cm} \times 3 \text{ cm}$$

$$A = 24 \text{ square centimeters}$$

CIRCLES

To find the area of a circle the formula is **Area = Pi x radius squared or $A = \pi r^2$**

To find the circumference of a circle is **$C = \text{Pi} \times \text{diameter}$ or $C = \pi d$**



$$\text{Area} = \pi r^2$$

$$A = 3.14 \times 3^2$$

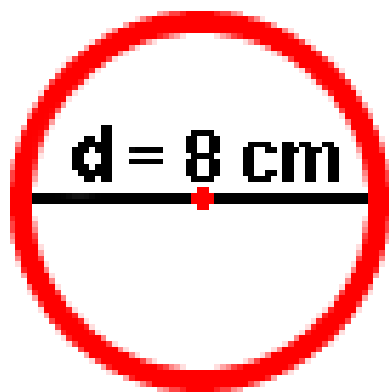
$$A = 3.14 \times 3\text{in} \times 3\text{in}$$

$$A = 28.26 \text{ in}^2$$

$$\text{Circumference} = \pi d$$

$$C = 3.14 \times 6 \text{ in}$$

$$C = 18.84 \text{ in}$$



$$\text{Area} = \pi r^2$$

$$A = 3.14 \times 4^2$$

$$A = 3.14 \times 4\text{cm} \times 4\text{cm}$$

$$A = 50.24 \text{ in}^2$$

$$\text{Circumference} = \pi d$$

$$C = 3.14 \times 8 \text{ cm}$$

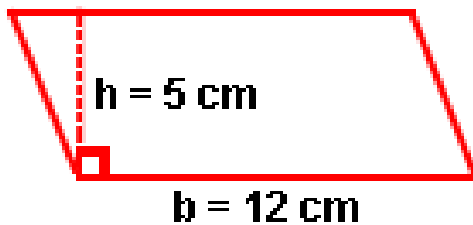
$$C = 25.12 \text{ cm}$$

PARALLELOGRAM

A parallelogram is a 4 sided polygon with two sets of parallel lines.

To find the area of parallelogram you need to multiply the base times the heights.

Area = bh

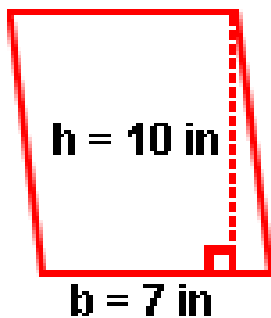


A = base x height

A = bh

A = 12cm x 5 cm

A = 60 cm²



A = base x height

A = bh

A = 7in x 10in

A = 70 in²