

Educator Information and Directions

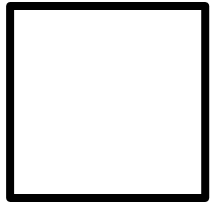
These formula sheets can be used as a reference for the games:

- ***Finding Area: Squares and Rectangles***
- ***Finding Area: Parallelograms and Trapezoids***
- ***Finding Area: Triangles***
- ***Finding Area: Polygons***
- ***Circumference and Area of Circles***
- ***Volume of Cubes and Right Prisms***
- ***Surface Area of Cubes and Right Prisms***

Students can use this formula sheet to study the formulas and understand how different geometric figures can be composed/decomposed into other figures to derive their formulas.

Geometry Formula Sheet

Square

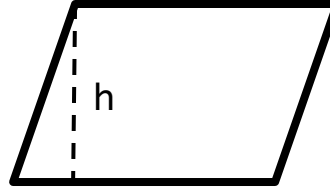


w

$$A = l \times w$$

l

Parallelogram



l

$$A = l \times h$$

Rectangle

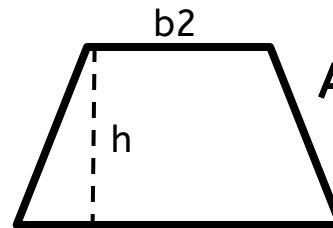


w

$$A = l \times w$$

l

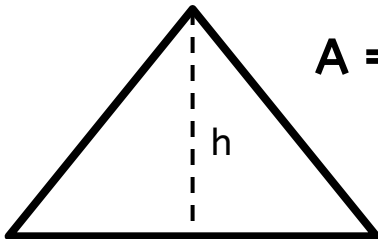
Trapezoid



b1

$$A = \frac{(b1 + b2) \times h}{2}$$

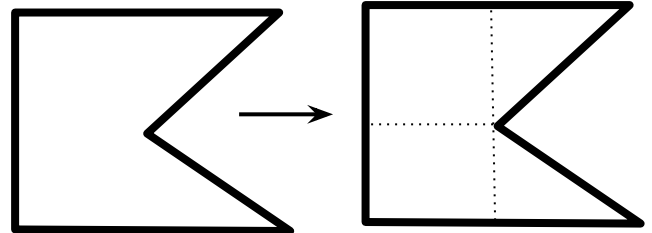
Triangle



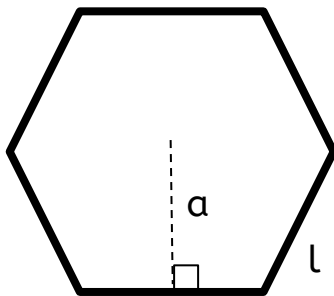
b

$$A = \frac{b \times h}{2}$$

Irregular Polygon



Regular Polygon



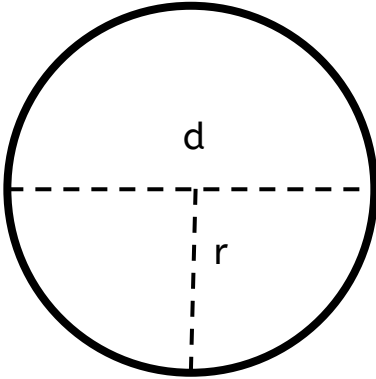
$$A = \frac{p \times a}{2}$$

$$p = l \times \# \text{ of sides}$$

1. Decompose polygon into figures with formulas on this sheet
2. Calculate area for each shape inside polygon
3. Add those areas together

Geometry Formula Sheet

Circle



$$C = 2\pi r$$

$$A = \pi r^2$$

$$\pi \sim 3.14$$

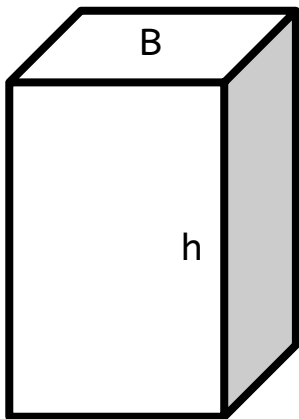
Plane figures:

Two-dimensional figures have perimeter and area.

Solid figures:

Three-dimensional figures have surface area and volume.

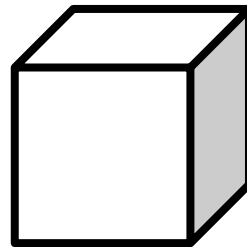
Volume of Cubes and Right Prisms



$$V = B \times h,$$

Where B is the area of the base.

Surface Area of Cubes and Right Prisms



Find area of each face (2D shape in the net) and add together.

