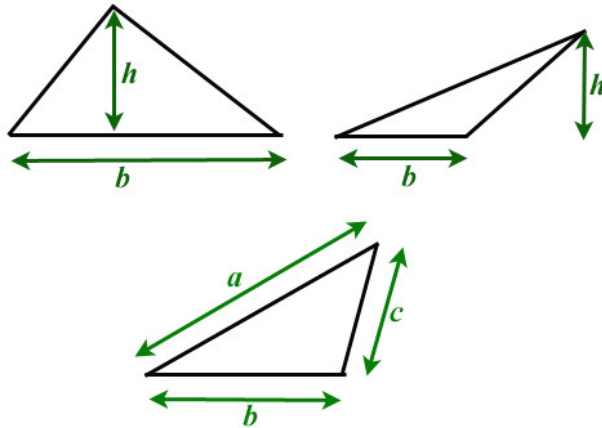


Area Formulae

Triangles



When the base and height are given

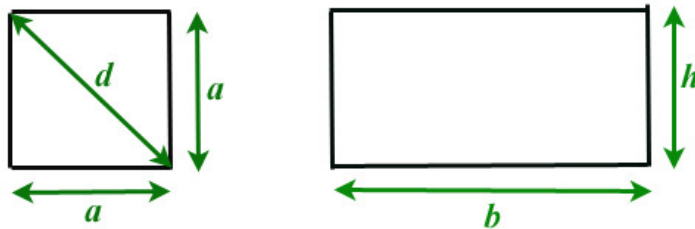
$$\text{Area} = (1/2) \times b \times h$$

When three sides are given

$$\text{Perimeter} = s = a + b + c$$

$$\text{Area} = \sqrt{(s \times (s - a) \times (s - b) \times (s - c))}$$

Squares and Rectangles



Area of a square when the side is given

$$\text{Area} = a \times a$$

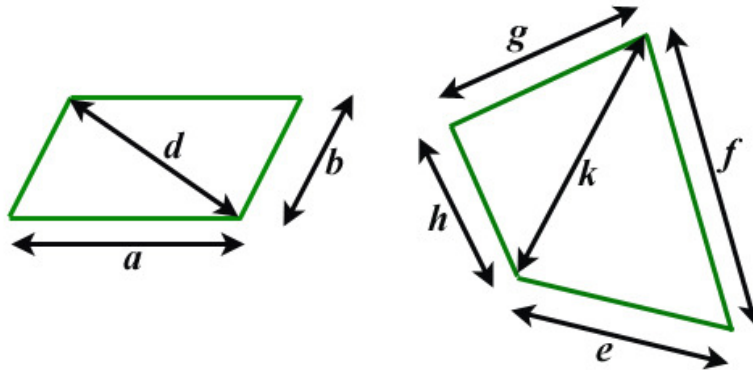
Area of a square when the diagonal is given

$$\text{Area} = (1/2) \times d \times d$$

Area of a rectangle

$$\text{Area} = b \times h$$

Parallelograms and Quadrilaterals



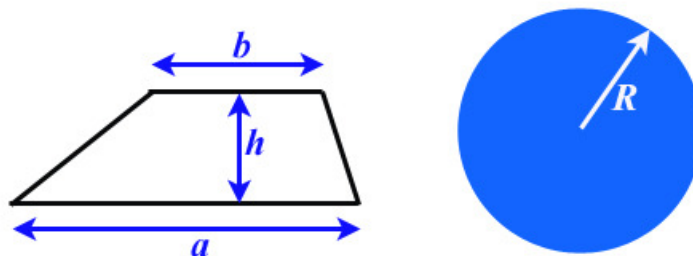
Break parallelogram into two triangles with sides a , b , d

$$\text{Perimeter} = s = a + b + d$$
$$\text{Area} = 2 \times \sqrt{(s \times (s - a) \times (s - b) \times (s - d))}$$

Break quadrilateral into two triangles of sides of g , h , k , and e , f , k .

$$\text{First Perimeter} = p = g + h + k$$
$$\text{Second perimeter} = q = e + f + k$$
$$\text{Area} = \sqrt{(p \times (p - g) \times (p - h) \times (p - k))}$$
$$+ \sqrt{(q \times (q - e) \times (q - f) \times (q - k))}$$

Trapezoids and Circles



For trapezoids

$$\text{Area} = (1/2) \times (a + b) \times h$$

For circles

$$\text{Area} = \pi \times R \times R$$
$$\pi = 3.1416$$

355/113 is an easy to remember close approximation for π , because it contains the first three odd numbers.