

# Formula Sheet

## Law of Sines

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

## Law of Cosines

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cdot \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cdot \cos C$$

## Area

$$K = \frac{1}{2}bc \cdot \sin A \quad K = \frac{1}{2}ac \cdot \sin B \quad K = \frac{1}{2}ab \cdot \sin C$$

$$K = \frac{1}{2}a^2 \frac{\sin B \cdot \sin C}{\sin A} \quad K = \frac{1}{2}b^2 \frac{\sin A \cdot \sin C}{\sin B} \quad K = \frac{1}{2}c^2 \frac{\sin A \cdot \sin B}{\sin C}$$

$$K = \sqrt{s(s-a)(s-b)(s-c)} \quad \text{where } s = \frac{1}{2}(a+b+c)$$