

Sine and Cosine Rules

10th Grade

Trigonometry for triangles that are not right-angled.

**The sine rule pairs a side with its opposite angle.
The cosine rule handles the cases the sine rule cannot.**

$$a/\sin A = b/\sin B \cdot c^2 = a^2 + b^2 - 2ab \cdot \cos C$$

Two angles and any side

sine rule

You have a complete pair.

Two sides and a non-included angle

sine rule

Watch for the ambiguous case.

Two sides and the angle between

cosine rule

No complete pair available.

All three sides, want an angle

cosine rule

Rearrange for $\cos C$.

If the triangle has a right angle, use SOH-CAH-TOA instead. It is far quicker.