Mathematical Odds and Ends

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Contents

1 Trigonometric Identities

$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$$

$$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$$

2 Law of Sines and Cosines

Given the triangle shown in Figure 1, the *law of sines* states that

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

The *law of cosines* states that

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

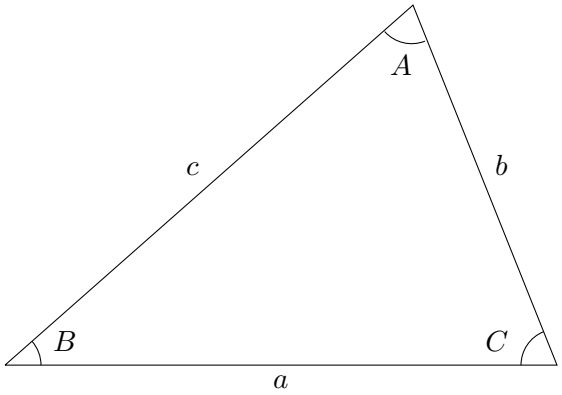

Figure 1: A triangle.