

# Sine rule

The *sine rule* states that if  $a$ ,  $b$  and  $c$  are the lengths of the sides of a triangle, and  $A$ ,  $B$  and  $C$  are the angles in the triangle; with  $A$  opposite  $a$ , etc., then

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

This ratio is also equal to  $2R$ , where  $R$  is the radius of the **circumcircle** of  $ABC$ . Some regard this further equality as part of the sine rule.

Another name sometimes used for the sine rule is *the law of sines*.

