

Use the Law of Sines to find the length of side b in the triangle if angle $A = 47$ degrees angle $B = 53$ degrees and length of side $a = 7$ feet.

Solution:

According to the law of sines we can write next ratio:

$$\frac{a}{\sin(A)} = \frac{b}{\sin(B)}$$

Solving for b

$$b = \frac{\sin(B)}{\sin(A)} * a$$

Substitute our values:

$$b = \frac{\sin(53^\circ)}{\sin(47^\circ)} * 7 = \frac{0.799}{0.731} * 7 = 7.651$$

Answer: $b = 7.651$