

Answer on Question #51009 – Math – Trigonometry

Question

Solve triangle ABC which has angle A=250:251; angle B=600:511 and a=3.82. Find b

Solution

The Law of Sines

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

When there is an angle opposite a side, this equation comes to the rescue. Angle A is opposite side a, B is opposite b, and C is opposite c.

Then we can write the following ratio:

$$\frac{3.82}{\sin \frac{250}{251}} = \frac{b}{\sin \frac{600}{511}};$$

then

$$b = \frac{3.82 \times \sin \frac{600}{511}}{\sin \frac{250}{251}} = 4.198 \approx 4.20$$

Answer:

b = 4.20