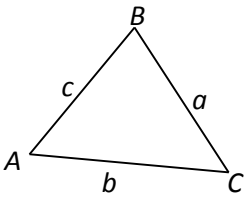
Answer on Question #58942 – Math – Trigonometry

Question

1. Solve triangle *ABC* which has
angle $A = 250251$ angle $B = 600511$ and $a = 382$. Find *b*.

Solution



So as angle $A = 250251°$ and angle $B = 600511°$, $\sin A = \sin 250251° = \sin(360° \cdot 695 + 51°) = \sin 51°$ and $\sin B = \sin 600511° = \sin(360° \cdot 1668 + 31°) = \sin 31°$. Then by the **law of sines** we have

$$\frac{a}{\sin A} = \frac{b}{\sin B},$$

hence

$$b = \frac{a \cdot \sin B}{\sin A} = \frac{382 \cdot \sin 31°}{\sin 51°} \approx 253.2$$

Answer: $b \approx 253.2$.