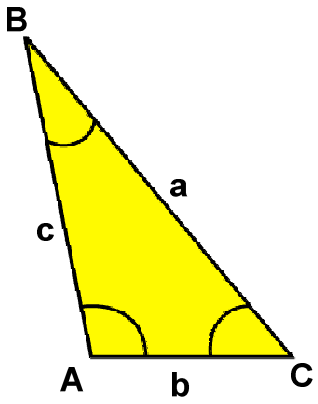
Law of Sines



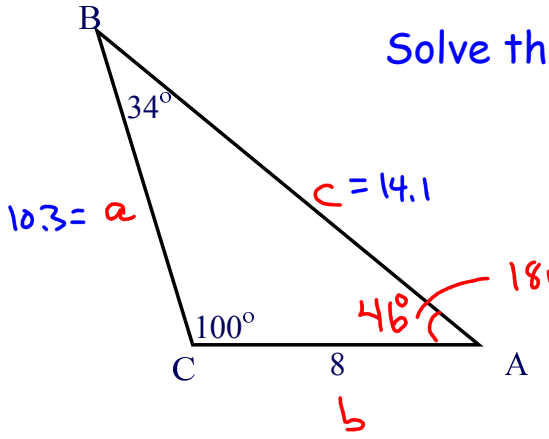
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

or

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

HINT

Solve the Triangle



$180 - (100 + 34)$

$180 - 134$

$46°$

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

$$\frac{\sin 34}{8} = \frac{\sin 100}{c}$$

$$\frac{8 \sin 100}{\sin 34} = \frac{c \cdot \sin 34}{\sin 34}$$

$$\frac{8 \sin 100}{\sin 34} = c = 14.1$$

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

$$\frac{\sin 34}{8} = \frac{\sin 46}{a}$$

$$\frac{a \sin 34}{\sin 34} = \frac{8 \sin 46}{\sin 34}$$

$$a = \frac{8 \sin 46}{\sin 34}$$

$$a = 10.3$$