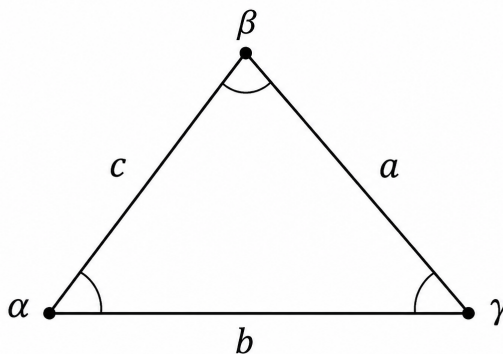
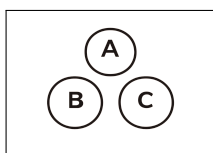




Opposite $\alpha \rightarrow$ side a
 Opposite $\beta \rightarrow$ side b
 Opposite $\gamma \rightarrow$ side c

$$a = 7$$

$$c = 9$$

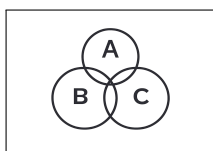
$$b = 11$$

$$\cos(\beta) = \frac{7^2 + 9^2 - 11^2}{2(7)(9)}$$

$$\cos(\beta) = \frac{49 + 81 - 121}{126}$$

$$\cos(\beta) = \frac{9}{126}$$

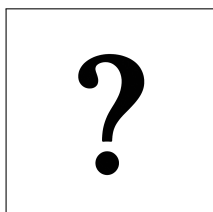
$$\cos(\beta) = \frac{1}{14}$$



$$b^2 = a^2 + c^2 - 2ac \cos(\beta)$$

$$2ac \cos(\beta) = a^2 + c^2 - b^2$$

$$\cos(\beta) = \frac{(a^2 + c^2 - b^2)}{2ac}$$



$$a = 8$$

$$c = 13$$

$$\beta = 60^\circ$$

$$b = ?$$



$$a = 8$$

$$c = 13$$

$$\beta = 60^\circ$$

$$b^2 = a^2 + c^2 - 2ac \cos(\beta)$$

$$b^2 = 8^2 + 13^2 - 2(8)(13)(1/2)$$

$$b^2 = 64 + 169 - 104$$

$$b^2 = 129$$

$$b = \sqrt{129}$$