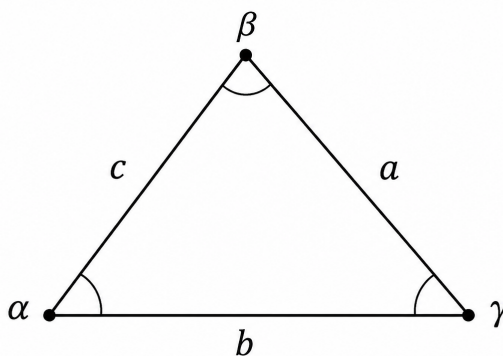
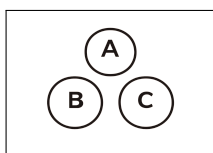


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Laws of Triangles Law of Sines

C



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

$$a = 7$$

$$b = 5$$

$$\gamma = 60^\circ$$

$$c^2 = a^2 + b^2 - 2ab \cos(\gamma)$$

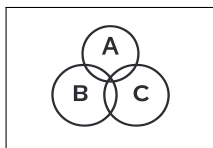
$$c^2 = 7^2 + 5^2 - 2(7)(5) \cos(60^\circ)$$

$$c^2 = 49 + 25 - 70(1/2)$$

$$c^2 = 74 - 35$$

$$c^2 = 39$$

$$c = \sqrt{39}$$



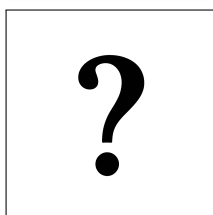
$$c^2 = a^2 + b^2 - 2ab \cos(\gamma)$$

$$a = 12$$

$$b = 9$$

$$\gamma = 120^\circ$$

$$c = ?$$



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Laws of Triangles
Law of Sines

C



$$a = 12$$

$$b = 9$$

$$\gamma = 120^\circ$$

$$c^2 = a^2 + b^2 - 2ab \cos(\gamma)$$

$$c^2 = 12^2 + 9^2 - 2(12)(9) \cos(120^\circ)$$

$$c^2 = 144 + 81 - 216 \times (-1/2)$$

$$c^2 = 225 + 108$$

$$c^2 = 333$$

$$c = \sqrt{333}$$