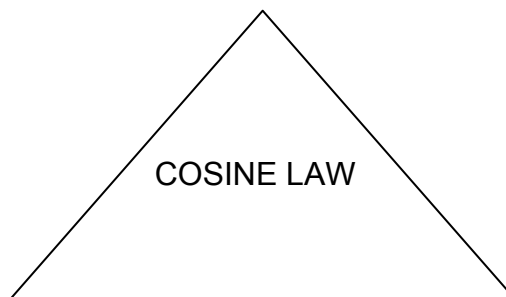
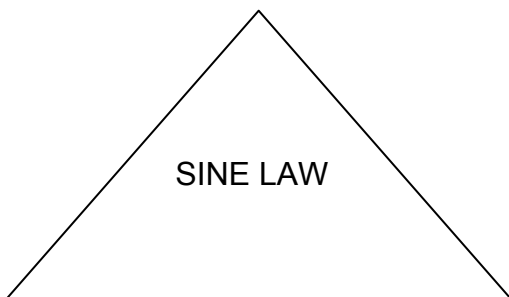


## Applications of Sine Law and Cosine Law

How do you know whether to use the sine law or the cosine law?



**Example 1** – A golfer hits a tee shot towards a golf hole. The distance from the tee to the hole is 265 m. His shot “hooks” to the left  $30^\circ$  instead of heading directly towards the hole. If he walks 240 m to his ball, how far is the ball from the hole?

**Example 2** – The angles of elevation of a mountain top taken from two points A and B, on opposite sides of the mountain, are  $43^\circ$  and  $28^\circ$  respectively. If A and B are 3000 m apart, determine the height of the mountain.

**Example 3** – Rapa Nui (Easter Island) is a triangular island. The lengths of the shorelines are approximately 9.4 miles, 10.7 miles and 13.6 miles. Determine the largest angle between adjacent shorelines.

