

Law of Sines Practice Questions

Exercises

- Use the Law of Sine to solve $\triangle ABC$ in each case. Round the answers to one decimal place.
 - $\angle A = 37^\circ$, $a = 13$, $b = 16$
 - $\angle A = 54^\circ$, $a = 13$, $b = 10$
 - $\angle B = 120^\circ$, $a = 15$, $b = 31$
 - $\angle B = 112^\circ$, $a = 25$, $b = 28$
 - $\angle C = 27^\circ$, $a = 17$, $c = 13$
 - $\angle A = 72^\circ$, $\angle B = 50^\circ$, $b = 35$
 - $\angle B = 105^\circ$, $\angle C = 40^\circ$, $b = 13$
 - $\angle A = 22^\circ$, $\angle B = 69^\circ$, $a = 3.7$
 - $\angle A = 81^\circ$, $\angle C = 40^\circ$, $a = 10$
 - $\angle B = 43^\circ$, $\angle C = 100^\circ$, $c = 24$
- The roof lines of a building make angles of 28° and 75° with the horizontal. The shorter roof line is 4.1m long. Find the length of the other roof line rounded to one decimal place.
- Bob observes the angle of elevation of an airplane to be 52° and the angle of elevation for Amy is 36° . Bob and Amy are 325m apart on level ground and on the same vertical plane as the airplane.
 - How far to the nearest meter is each person from the airplane?
 - How high to the nearest meter is the airplane?
- Two guy wires 15m and 9m in length are fastened to the top of a radio tower from two points A and B directly opposite one another on level ground. The angle of elevation of the longer wire is 29.3° .
 - How far apart are A and B? Round your answer to the nearest meter.
 - How tall is the tower? Round your answer to the nearest meter.
- A bridge MN is to be built across a river. Point P is located 64m from N on the same side of the river and $\angle N = 69^\circ$ while $\angle P = 42^\circ$. How long will the bridge be? Round your answer to the nearest meter.

Law of Cosines Practice Questions

Exercises

- Use the Law of Cosines to solve $\triangle ABC$ in each case. Round the answers to one decimal place.
 - $\angle A = 43^\circ$, $b = 7$, $c = 5$
 - $\angle B = 120^\circ$, $a = 11$, $c = 15$
 - $\angle C = 85^\circ$, $b = 16$, $a = 23$
 - $\angle A = 72^\circ$, $b = 4.3$, $c = 2.9$
 - $\angle B = 130^\circ$, $a = 32$, $c = 27$
 - $a = 14$, $b = 6$, $c = 10$
 - $a = 23$, $b = 31$, $c = 52$
 - $a = 8.3$, $b = 9.7$, $c = 12.5$
 - $a = 7$, $b = 9$, $c = 14$
 - $a = 2$, $b = 6$, $c = 7$
- A triangular course is laid out with buoys in a lake for the triathlon competition. If the legs of the course are 850m, 675m and 420m respectively, find the largest and smallest angles made by the legs of the course rounded to the nearest degree.
- To the left of skier is a tree and to the right is a cliff. The angle between the tree, the skier and the cliff is 74° . The tree is 34m from the skier and the cliff is 42m from her. Find the distance between the tree and the cliff rounded to the nearest meter.
- A radar tracking station locates a fishing trawler at a distance of 5.4km, and a passenger ferry at a distance of 7.2km. At the station, the angle between the two boats is 118° . How far apart are they? Round your answer to the nearest kilometer.
- Two ships leave a port, sailing 16km/h and 29km/h. The angle between their directions of travel from the port is 42° . How far apart to the nearest kilometer are the ships after 2 hours?