

Law of Sines and Cosines Word Problems

1. Juan and Romella are standing at the seashore 10 miles apart. The coastline is a straight line between them. Both can see the same ship in the water. The angle between the coastline and the line between the ship and Juan is 35 degrees. The angle between the coastline and the line between the ship and Romella is 45 degrees. How far is the ship from Juan?

Diagram	Known information? Circle SSS SAS ASA AAS Which Law? Circle Sines Cosines	Set Up Formula	Solution
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2. Tom, Dick, and Harry are camping in their tents. If the distance between Tom and Dick is 153 feet, the distance between Tom and Harry is 201 feet, and the distance between Dick and Harry is 175 feet, what is the angle at Tom?

Diagram	Known information? Circle SSS SAS ASA AAS Which Law? Circle Sines Cosines	Set Up Formula	Solution
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3. Three boats are at sea: Jenny one (J1), Jenny two (J2), and Jenny three (J3). The crew of J1 can see both J2 and J3. The angle between the line of sight to J2 and the line of sight to J3 is 45 degrees. If the distance between J1 and J2 is 2 miles and the distance between J1 and J3 is 4 miles, what is the distance between J2 and J3?

Diagram	Known information? Circle SSS SAS ASA AAS Which Law? Circle Sines Cosines	Set Up Formula	Solution
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4. Airplane A is flying directly toward the airport which is 20 miles away. The pilot notices airplane B 45 degrees to her right. Airplane B is also flying directly toward the airport. The pilot of airplane B calculates that airplane A is 50 degrees to his left. Based on that information, how far is airplane B from the airport?

Diagram	<p>Known information? Circle</p> <p>SSS SAS ASA AAS</p> <p>Which Law? Circle</p> <p>Sines Cosines</p>	Set Up Formula	Solution
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5. A triangular playground has sides of lengths 475 feet, 595 feet, and 401 feet. What are the measures of the angles between the sides, to the nearest tenth of a degree?

Diagram	<p>Known information? Circle</p> <p>SSS SAS ASA AAS</p> <p>Which Law? Circle</p> <p>Sines Cosines</p>	Set Up Formula	Solution
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