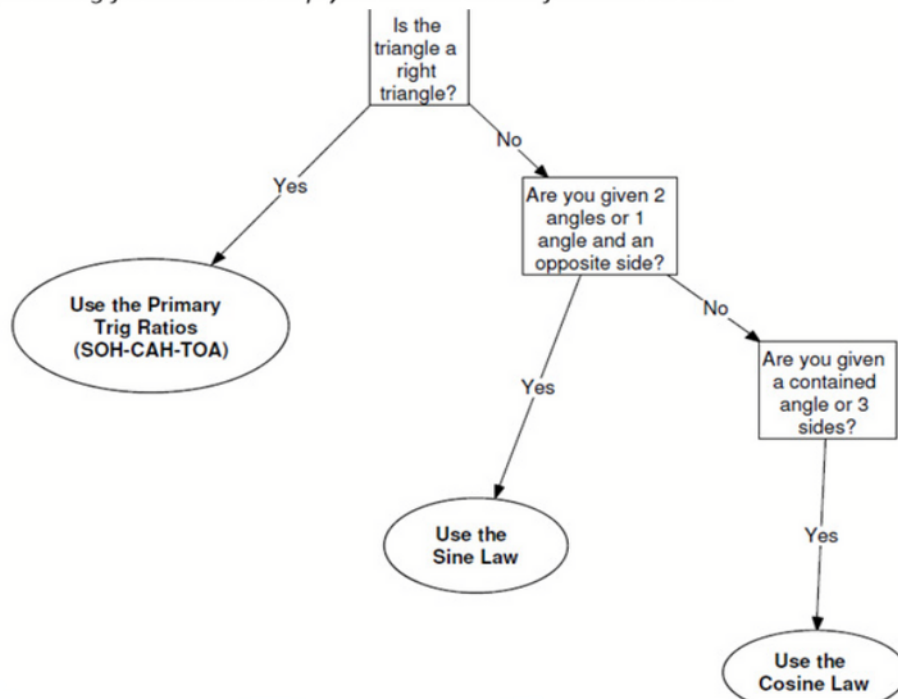


Solving Problems with Trigonometry

Steps to solving trigonometry problems:

1. state _____ and draw a _____
2. choose the appropriate _____
 - For right triangles,
 - use the _____: _____, _____, and _____
 - For non-right triangles,
 - the _____: _____ can be used when
 - one pair of opposite side and angle must be given plus one more piece of information (the 3rd angle can be found from subtracting two angles from 180°)
 - the _____: _____ can be used when
 - two sides and a contained angle are given
 - three sides are given

Use the following flowchart to help you decide which formula to use:



3. _____ for the missing variable
4. make sure the answer _____ in the context of the question
5. write a _____

Example 1

From the top of the Niagara Escarpment, Juan sees a car below at an angle of depression of 40° . He is approximately 100 m above the car. How far is the car from the base of the escarpment? Round your answer to the nearest metre.

Example 2

Micah is standing on the ground between two buildings on the opposite sides of a park. The top of the first building is 152 m from Micah, at an angle of elevation of 38° , while the top of the second building is 175 m from Micah, at an angle of elevation of 53° . How far apart are the tops of the two buildings? Round your answer to the nearest metre.

Example 3

Sam is on a hiking trip. On the first section of the hike, he walks 5 km from the Loon Campsite to the Owl Campsite. Then, he turns 68° and hikes 7 km to the Eagle Campsite. He then returns to the Loon Campsite. What is the distance from the Eagle campsite to the Loon campsite, to the nearest kilometre?