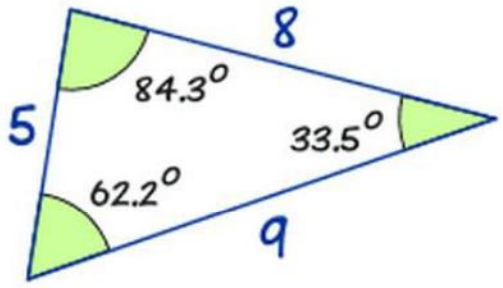
Mathematics 10D

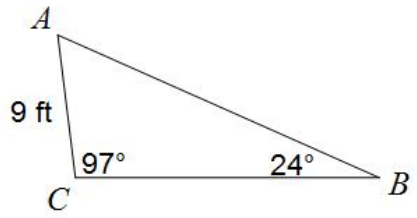
Unit 8 – Acute Triangle Trigonometry

Mr. D. Hagen

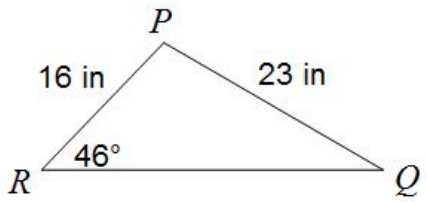
Mathematics 10D 8.1 – The Sine Law



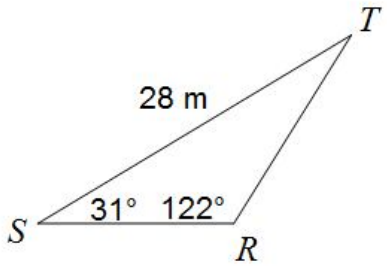
1) Find AB



2) Find $m\angle Q$



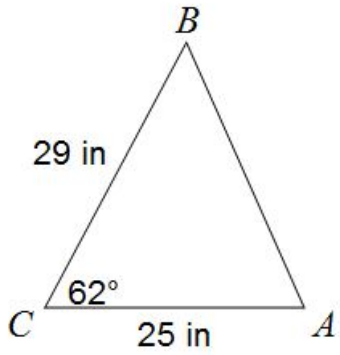
3)



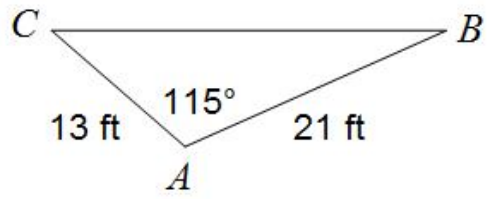
4) In $\triangle RPQ$, $m\angle R = 80°$, $q = 9$ yd, $r = 11$ yd

Mathematics 10D 8.4 – Cosine Law

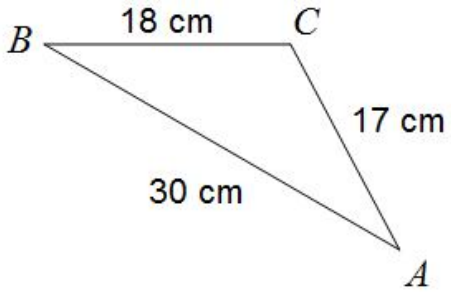
1) Find AB



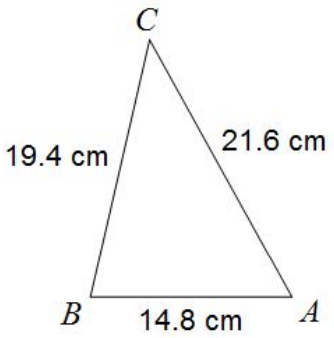
2) Find BC



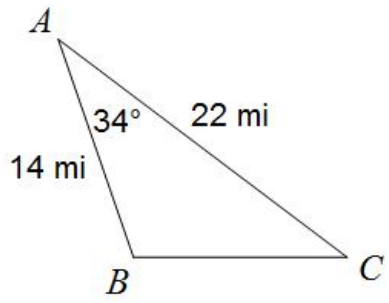
3) Find $m\angle B$



4) Find $m\angle C$



5)



Mathematics 10D 8.5 – Solving Acute Triangle Problems

The roof of a new house must be built to exact specifications so that solar panels can be installed. The long rafters at the front of the house must be inclined at an angle of 26° to the horizontal beam. The short rafters at the back of the house must be inclined at an angle of 66°. The house is 15.3 m wide. Determine the length of the long rafters.

A weather balloon is directly between two tracking stations. The angles of elevation from the two tracking stations are 55° and 68°. If the tracking stations are 20 km apart, determine the altitude of the weather balloon.

The captain of a boat leaves a marina and heads due west for 25 km. Then the captain adjusts the course of his boat and heads N30°E for 20 km. How far is the boat from the marina?