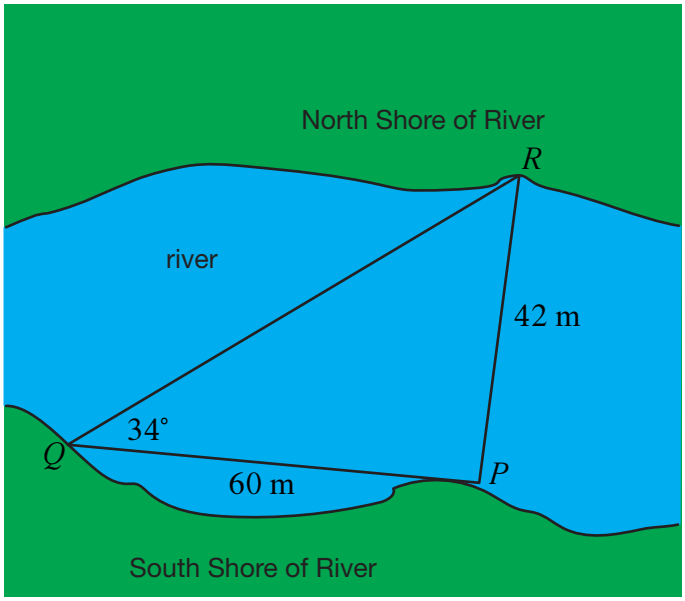
Practice – Part 2

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers under the Solutions tab in Moodle.

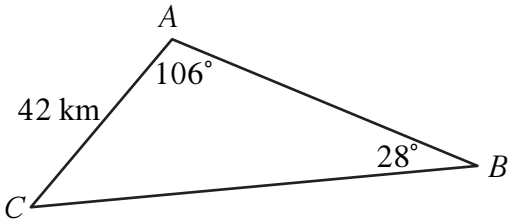
1. A surveying team is measuring angles on the south shore of a river. One surveyor is positioned at point Q and determines the angle where she is standing is 34°. A second surveyor, positioned at point P, is 60 m from point Q.



   a. Should the sine law or the cosine law be used to find the angle at point R?

   b. If the river is 42 m wide from point P to point R, find the angle at point R.

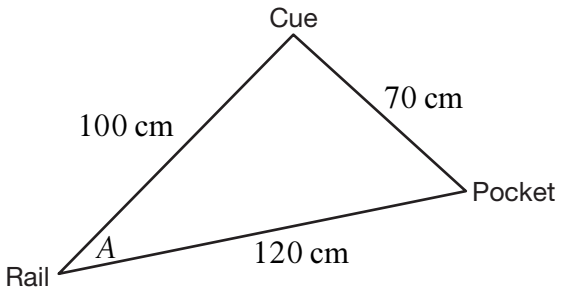
2. Three fishing ships are out on the ocean. Ship C is 42 km from ship A. An officer on ship A measures that angle between ship B and ship C to be 106°. An officer on ship B measures the angle between ship A and ship C to be 28°.



   a. Should the sine law or the cosine law be used to find the distance from ship B to C?

   b. How far apart, to the nearest tenth of a kilometre, are ships B and C?

3. A billiard ball is struck by a cue in an game of pool. It travels 100 cm before bouncing off a rail and travelling another 120 cm into a corner pocket. The distance from the cue to the pocket is 70 cm.



   a. Should the sine law or the cosine law be used to find $\angle A$?

   b. What is the measure of the angle formed at the rail $(\angle A)$ to the nearest degree?