

Review & Preview

Solve the problems posed in Parts 1 through 4 on pages 502 – 505. Strategies to do these problems are given below each problem.

U6L3 – 5.8 – Solving Problems

Students will solve problems using right triangles and Trigonometry.

Examples

1. To evacuate some refugees, a bridge needs to be built across a river. The first step is to find out how wide the river is. A surveyor is on one side of the river, with a transit mounted on a tripod 1.2m above the ground. An assistant stands on the other side of the river, holding a 3m pole vertically. The angle of elevation from the transit to the top of the pole is 8.5° . How wide is the river?
2. A video camera is mounted on the top of a 120m tall building. When the camera tilts down 36° with the horizontal, it views the bottom of another building. If it tilts up 47° with the horizontal, it can view the top of the same building.
 - a) How far apart are the two buildings?
 - b) How tall is the building viewed by the camera?

3. A communications antenna is attached to the roof of a school and held in place with two 16m guy wires. The antenna is 12.5m tall.

a) What angle will the wires make with the roof?

b) At what distance from the base of the tower should the wires be secured to the roof?