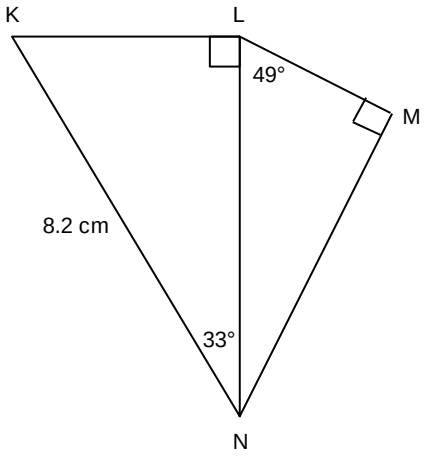
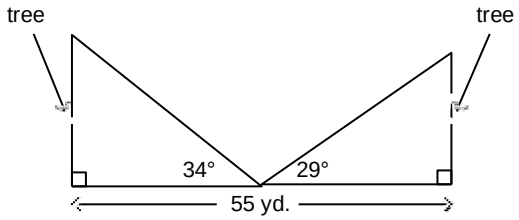
Mathematics 1201
Assignment 3 (Unit 2)

Answer all questions and show your workings.

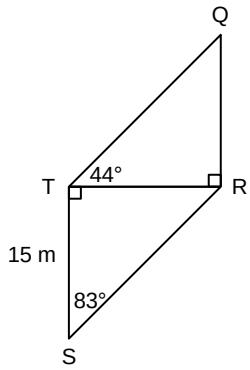
1. Determine the length of MN to the nearest tenth of a centimetre.



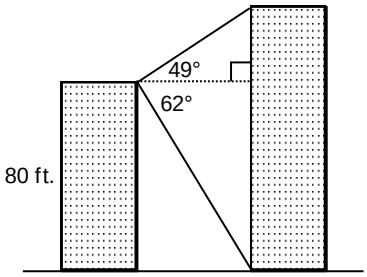
2. Two trees are 55 yd. apart. From a point halfway between the trees, the angles of elevation of the tops of the trees are measured. What is the height of each tree to the nearest yard?



3. Determine the length of QR to the nearest metre.



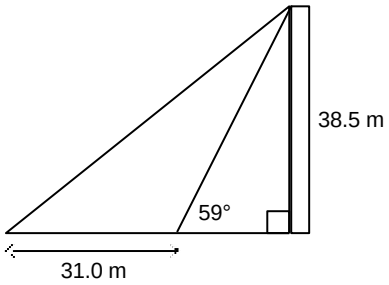
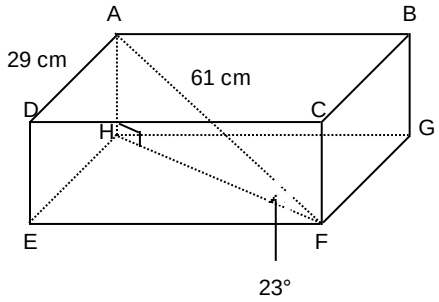
4. From the top of an 80-ft. building, the angle of elevation of the top of a taller building is 49° and the angle of depression of the base of this building is 62°. Determine the height of the taller building to the nearest foot.



5. From the top of a 25-m lookout tower, a fire ranger observes one fire due east of the tower at an angle of depression of 7°. She sees another fire due north of the tower at an angle of depression of 3°. How far apart are the fires to the nearest metre?

6. Two guy wires are attached to the top of a radio tower. The wires are 75 ft. and 52 ft. long. The longer wire is anchored to the ground at a point 58 ft. from the base of the tower. The shorter wire is anchored to the ground at a point between the base of the tower and the longer wire. Calculate the angle of inclination of the shorter guy wire to the nearest tenth of a degree.

7. A Girl Guide measured the angle of elevation of the top of a monument as 59°. The height of the monument is 38.5 m. She then walked 31.0 m due west from the point where she measured the angle of elevation. Determine the angle of elevation of the monument from her new location to the nearest tenth of a degree.



8. The length of the body diagonal in this rectangular prism is 61 cm. The width of the prism is 29 cm. The measure of ∠AFH is 23°. Determine the height and the length of the rectangular prism to the nearest centimetre.