

Class 10 Mathematics - Some Applications of Trigonometry

Name: _____

Date: _____

Advanced Worksheet 4

Questions

1. The angles of depression of the top and bottom of an 8 m high building from the top of a multi-storeyed building are 30° and 45° respectively. Find the height of the multi-storeyed building.
2. From a point on a bridge 3 m above a river, the angles of depression of the banks on opposite sides are 30° and 45° . Find the width of the river.
3. A TV tower stands on one bank of a canal. From a point directly opposite, the angle of elevation of the top is 60° . From another point 20 m farther away, the angle is 30° . Find the height of the tower.
4. From the top of a 7 m high building, the angle of elevation of the top of a cable tower is 60° and the angle of depression of its foot is 45° . Find the height of the cable tower.
5. From the top of a 75 m high lighthouse, the angles of depression of two ships are 30° and 45° . If the ships are on the same side of the lighthouse, find the distance between them.
6. A 1.2 m tall girl observes a balloon at a height of 88.2 m. The angle of elevation changes from 60° to 30° . Find the distance travelled by the balloon.

Answer Key

1. $4(\sqrt{3} + 1) + 8$ m
2. $3(\sqrt{3} + 1)$ m
3. Height = $20\sqrt{3}$ m
4. $7(\sqrt{3} + 1)$ m
5. $75(\sqrt{3} - 1)$ m
6. $87\sqrt{3}$ m

