

TRIGONOMETRY 1

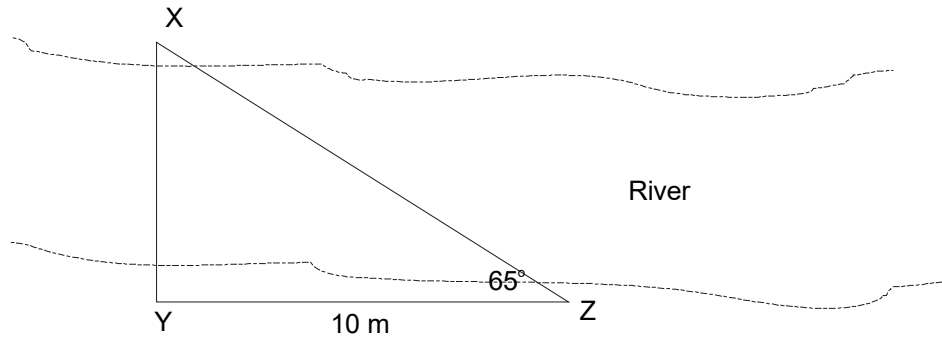
Read each question carefully, then draw a diagram.

1. Pat wants to know the height of a tree in her yard. She observes that from a distance of 20 m from the tree, the angle of elevation to the top of the tree is 32° . What is the height of the tree to the nearest tenth of a metre?

2. From a lighthouse 16 m above sea level, the angle of depression to a small boat is 12° . How far from the foot of the lighthouse is the boat to the nearest metre?

3. A kite is 40 m high when 210 m of string is used. What angle does the kite make with the horizontal to the nearest degree?

4. Marianne wants to know how far it is across a river. She notices a tree at point X straight across from point Y. She walks 10 m along the river bank to point Z and observes that the angle to the tree is 65° . What is the distance across the river from point X to point Y to the nearest hundredth of a metre?



5. A plot of land has the shape of a right triangle. The longest side is 37 m and lies at an angle of 53° to the shortest side. Find the area of the plot to the nearest square metre.

ANSWER KEY

1. 12.5 m
2. 75 m
3. 11°
4. 21.45 m
5. 329 m^2

Source: Government of BC used with permission.