Revision - day-03

Chp- Application of Trigonometry. BIVASH SIR.

(1) A man standing on the deck of a ship, which is 10m above the water level, observes the angle of elevation of the top of a hill as 60° & the angle of depression of the base of the hill as 30°, calculate the distance of the hill from the ship & the height of the hill. Ans: 17.3m, 40m

(2) From a window (h metres high above the ground) of a house in a street, the angles of elevation & depression of the top & the foot of another house on the opposite side of the street are θ & ϕ respectively. Show that the height of the opposite house is $h(1+\tan\theta \cdot \cot\phi)$.

(3) The angle of elevation of a aeroplane from a point A on the ground is 60°. After a flight of 30s, the angle of elevation changes to 30°. If the aeroplane is flying at a constant height of $3600\sqrt{3}$ m, then find the speed of the aeroplane. Ans: 240 m/s

(4) If the angle of elevation of a cloud from a point h ~~meters~~ metres above a lake is α & the angle of depression of its reflection in the lake is β, prove that the height of the cloud is $\frac{h(\tan\beta+\tan\alpha)}{\tan\beta-\tan\alpha}$.

(5) The shadow of a tower ~~is~~ at a time is three times as long as its shadow when the angle of elevation of Sun is 60°. Find the angle of the elevation of the Sun at the time of longer shadow.