***Important Question-2013***

**Class – XII**

**Subject – MATHEMATICS**

1. If string of a kite is 100m and makes an angle of 60o with the ground , then the height of the kite is :

 a) 30√3 m b) 50√3 m c) 30 m d) 20 m A

2. In the adjoining fig. $△ABD$ is an equilateral $△ $ with

 AC $⊥$ BD , AB= 6cm , then AC is:

1. 3$\sqrt{3}$ cm (b) 6$\sqrt{3}$ cm (c) 12$\sqrt{3}$ cm (d) 2$\sqrt{3}$ cm B C D

1. From the top of a tower 60 meters high , the angles of depression of the top and bottom of a pole are observed to be 45o and 60o respectively. Find the height of the pole if the Pole and tower stand on the same plane.
2. From the top of a 100m high building the angles of the depression of the top and bottom of the tower are observed to be 45o and 60o. Calculate the height of the tower.
3. The angle of the elevation of the top of the tower from a point A on the ground is 30o . On moving 50 m towards the tower, the angle of elevation is found to be 60o. Calculate the height of the tower.
4. The angle of elevation of an aero plane from a point on the ground is 45o . After the flight of 15 seconds, the angle of elevation changes to 30o  If the aero plane is flying at a constant height of 3000m, find the speed of the aero plane.
5. The angle of elevation of top and bottom of flag staff fixed at top of the pole of height 40m are 60o and 45o respectively from the same point on the ground, find the height of the flag staff and distance of observation point from the foot of pole.
6. From the top of a 10 m high building the angle of elevation of top of the tower is 45o  and the angle of depression of foot of the building from the top of a tower is found to be 60o. find the distance between foots of the building and tower and height of the tower.
7. From the deck of a ship above 5m from the sea level the angle of elevation of top of the mountain is 45o  and the angle of depression of foot of the mountain is 30o. find the distance ship from the foots of the mountain and height of the mountain.
8. Two ships are sailing in the sea on the either side of the light house , the angles of depression of two ships as observed from the top of the light house are $60^{0}$ and $45^{0}$ respectively . if the distance b/w the ships is 200 $ \left(\frac{\sqrt{3}+ 1}{\sqrt{3}} \right)m$ , find the height of light house.
9. A parachutist is descending vertically . at a certain height his angle of elevation from a point on the ground is $60^{0}$ and after his descending 600m further , the angle of elevation becomes $45^{0}$ at the same point of observation . find the distance of the point of observation from the place where the parachutist descends.

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|  **[mathematics assignment class : x topic: trigonometry contd.]** | October 12, 2012 |