Some Applications of Trigonometry: Worksheet -1

1. If the angle of elevation of the top of a cliff from a point 300mts from its foot is 60° then the height of the cliff is   [   ]

   a) $100\sqrt{3}$ b) $300\sqrt{3}$ c) 100   d) $\dfrac{300}{\sqrt{3}}$

2. If the angle of depression of a point 100mts from the foot of the tree is 60° then the height of the tree is   [   ]

   a) $\dfrac{100}{\sqrt{3}}$ b) $\dfrac{100}{3}$ c) $100\sqrt{3}$ d) 300

3. A ladder 19meters leaning to a wall at 60° with ground the distance from foot to the wall is   [   ]

   a) 18   b) 19   c) 9   d) 9.5

4. The angle of elevation of the sun when the length of the shadow of a pole is $\sqrt{3}$ times the height of the pole is   [   ]

   a) 15°   b) 30°   c) 45°   d) 60°

5. A kite with 68mts string is in the sky. The string is making an angle 'θ' with the ground so that $\tan\theta = \dfrac{15}{8}$ then the height of the kite is

   [   ]

   a) 50mt   b) 60mt   c) 70mt   d) 80mt

6. A circus artist is climbing a 20mt long rope which is tightly stretched and tied from the top of a vertical pole to the ground of the angle made by the rope with the ground level is 30°, then height of the pole is

   [   ]

   a) 10mt   b) 100mt   c) $10\sqrt{3}$ mt   d) $\dfrac{10}{\sqrt{3}}$ mt

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7. An electrician has to repair an electric fault on a pole of height 4mt. He needs to reach a point 1.3mt below the top of the pole to undertake the repair work. The length of the ladder that he should use which inclined at an angle of 60° to the horizontal would enable him to reach is [   ]

a) $\frac{9}{5}$ mt 　　　 b) $9\sqrt{3}$ mt 　　　 c) $\frac{9\sqrt{3}}{5}$ mt 　　　 d) $\frac{5\sqrt{3}}{9}$ mt

8. Two pillars of equal height and on either side of a road, which is 100m wide. The angles of revolution of the top of the pillars are 60° and 30° at a point on the road between the pillars. Then the distances of that point from the first pillar and second pillar are respectively in ____ mt [   ]

a) 20, 70 　　　 b) 70, 20 　　　 c) 25, 75 　　　 d) 75, 25

9. From a window 15mts high above the ground in a street, the angle of elevation and depression of the top and foot of the street are 30° and 45° respectively. Then by taking $\sqrt{3}$ = 1.732 the height of the opposite house in mt is [   ]

a) 26.33 　　　 b) 23.66 　　　 c) 26.36 　　　 d) 23.63

10. A parachutist is descending vertically and makes angle of elevation of 45° and 60° at two observing points 100mt apart from each other on the left side of himself. The maximum height from which he fall is in mts [   ]

a) 236.6mt 　　 b) 230mt 　　　 c) 230.5mt 　　　 d) 263.6mt