

# DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

## SOME APPLICATIONS OF TRIGONOMETRY

SESSION -2024-25

CLASS - 10<sup>th</sup>

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VACATION Apr, May & Jun (Every Year)

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Time : 1 hr :- Some Application of Trigonometry:- mm:

Q. 1. A circus artist is climbing a 20m long rope, which is tightly stretched and tied from the top of a vertical pole to the ground. Find the height of the pole, if the angle made by the rope with the ground level is  $30^\circ$ .



Q. 2. The angle of elevation of the top of a tower from a point on the ground, which is 25m away from the foot of the tower, is  $60^\circ$ . Find the height of the tower.



Q. 3. An observer 1.5m tall is 28.5m away from a chimney. The angle of elevation of the top of the chimney from her eye is  $45^\circ$ . What is the height of the chimney?



Q. 4. A tree breaks due to storm and the broken part bends so that the top of the tree touches the ground making an angle  $30^\circ$  with it. The distance between the foot of the tree to the point where the top touches the ground is 8m. Find the height of the tree.

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Q. 5. A tower stand vertically on the ground. From a point on the ground which is 15m away from the foot of the tower, the angle of elevation of the top of the tower is found to be  $60^\circ$ . find the height of the tower.

Q. 6. From a point on the ground, the angle of elevation of the bottom and the top of a transmission tower fixed at the top of a 20 m high building are  $45^\circ$  and  $60^\circ$  respectively. Find the height of the tower.



Q. 7. Two poles of equal heights are standing opposite each other on either side of the road which is 80 m wide. From a point between them on the road the angle of elevation of the top of the poles are  $60^\circ$  and  $30^\circ$  respectively. find the height of the poles and the distance of the point from the poles.



Q. 8. As observed from the top of a 75 m high lighthouse from the sea-level, behind the other on the same side of a light house, find the distance between the two ships.

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Q.9. From a point P on the ground the angle of elevation of the top of a 10m tall building is  $30^\circ$ . A flag is hoisted at the top of the building and the angle of elevation of the top of the flagstaff from P is  $45^\circ$ . Find the length of the flagstaff and the distance of the building from the point P ( $\sqrt{3} = 1.732$ )



Q.10. The angle of depression of the top and the bottom of an 8m tall building from the top of a multi-storeyed building are  $30^\circ$  and  $45^\circ$  respectively. Find the height of the multi-storeyed building and distance between the two buildings.



By. Er. Dharmendra Sir

7974073108, 9584873492

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