PERL EDUCATION

DPP

DAILY PRACTICE PAPER

MCQ WORKSHEET-I
SOME APPLICATIONS
TO TRIGONOMETRY

**MATHEMATICS**

10THCBSE

1. The angle of elevation of the top of a tower from a point on the ground, which is 20m away from the foot of the tower is 60^0. Find the height of the tower.
   (a) $10\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $20\sqrt{3}$ m   (d) none of these

2. The height of a tower is 10m. What is the length of its shadow when Sun's altitude is 45^0?
   (a) 10 m   (b) 30 m   (c) 20 m   (d) none of these

3. The angle of elevation of a ladder leaning against a wall is 60^0 and the foot of the ladder is 9.5 m away from the wall. Find the length of the ladder.
   (a) 10 m   (b) 19 m   (c) 20 m   (d) none of these

4. If the ratio of the height of a tower and the length of its shadow is $\sqrt{3}$: 1, what is the angle of elevation of the Sun?
   (a) 30^0 (b) 60^0 (c) 45^0 (d) none of these

5. What is the angle of elevation of the Sun when the length of the shadow of a vertical pole is equal to its height?
   (a) 30^0 (b) 60^0 (c) 45^0 (d) none of these

6. From a point on the ground, 20 m away from the foot of a vertical tower, the angle of elevation of the top of the tower is 60^0, what is the height of the tower?
   (a) $10\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $20\sqrt{3}$ m   (d) none of these

7. If the angles of elevation of the top of a tower from two points at a distance of 4 m and 9 m from the base of the tower and in the same straight line with it are complementary, find the height of the tower.
   (a) 10 m   (b) 6 m   (c) 8 m   (d) none of these

8. In the below fig. what are the angles of depression from the observing positions D and E of the object A?
   (a) 30^0, 45^0 (b) 60^0 , 45^0 (c) 45^0, 60^0 (d) none of these
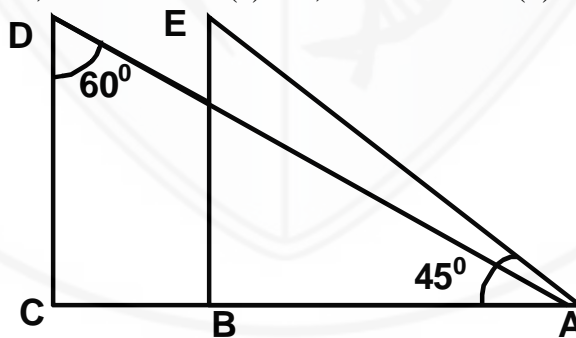
9. The ratio of the length of a rod and its shadow is 1: $\sqrt{3}$. The angle of elevation of the sun is
   (a) 30^0 (b) 60^0 (c) 45^0 (d) none of these

10. If the angle of elevation of a tower from a distance of 100m from its foot is 60^0, then the height of the tower is
    (a) $100\sqrt{3}$ m   (b) $\dfrac{200}{\sqrt{3}}$ m   (c) $50\sqrt{3}$ m   (d) $\dfrac{100}{\sqrt{3}}$ m

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MCQ WORKSHEET-II
SOME APPLICATIONS
TO TRIGONOMETRY

MATHEMATICS
10TH CBSE

1. If the altitude of the sun is at 60^0, then the height of the vertical tower that will cast a shadow of length 30m is

   (a) $30\sqrt{3}$ m   (b) 15 m   (c) $\dfrac{30}{\sqrt{3}}$ m   (d) $15\sqrt{2}$ m

2. A tower subtends an angle of 30^0 at a point on the same level as its foot. At a second point 'h' metres above the first, the depression of the foot of the tower is 60^0. The height of the tower is

   (a) $\dfrac{h}{2}$ m   (b) $\dfrac{h}{3}$ m   (c) $\sqrt{3}h$ m   (d) $\dfrac{h}{\sqrt{3}}$ m

3. A tower is $100\sqrt{3}$ m high. Find the angle of elevation if its top from a point 100 m away from its foot.

   (a) 30^0 (b) 60^0 (c) 45^0 (d) none of these

4. The angle of elevation of the top of a tower from a point on the ground, which is 30m away from the foot of the tower is 30^0. Find the height of the tower.

   (a) $10\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $20\sqrt{3}$ m   (d) none of these

5. The string of a kite is 100m long and it makes an angle of 60^0 with the horizontal. Find the height of the kite, assuming that there is no slack in the string.

   (a) $100\sqrt{3}$ m   (b) $\dfrac{200}{\sqrt{3}}$ m   (c) $50\sqrt{3}$ m   (d) $\dfrac{100}{\sqrt{3}}$ m

6. A kite is flying at a height of 60m above the ground. The inclination of the string with the ground is 60^0. Find the length of the string, assuming that there is no slack in the string.

   (a) $40\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $20\sqrt{3}$ m   (d) none of these

7. 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 30^0.

   (a) 10 m   (b) 30 m   (c) 20 m   (d) none of these

8. A tower is 50m high, Its shadow ix 'x' metres shorter when the sun's altitude is 45^0 than when it is 30^0. Find the value of 'x'

   (a) $100\sqrt{3}$ m   (b) $\dfrac{200}{\sqrt{3}}$ m   (c) $50\sqrt{3}$ m   (d) none of these

9. Find the angular elevation of the sun when the shadow of a 10m long pole is $10\sqrt{3}$ m.

   (a) 30^0 (b) 60^0 (c) 45^0 (d) none of these

10. A vertical pole stands on the level ground. From a point on the ground 25m away from the foot of the pole, the angle of elevation of its top is found to be 60^0. Find the height of the pole.

    (a) $25\sqrt{3}$ m   (b) $\dfrac{25}{\sqrt{3}}$ m   (c) $50\sqrt{3}$ m   (d) none of these

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MCQ WORKSHEET-III
SOME APPLICATIONS TO TRIGONOMETRY

MATHEMATICS
10THCBSE

1. A kite is flying at a height of 75m above the ground. The inclination of the string with the ground is 60^0. Find the length of the string, assuming that there is no slack in the string.
   (a) $40\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $50\sqrt{3}$ m   (d) none of these

2. The angle of elevation of the tope of a tree from a point A on the ground is 60^0. On walking 20m away from its base, to a point B, the angle of elevation changes to 30^0. Find the height of the tree.
   (a) $10\sqrt{3}$ m   (b) $30\sqrt{3}$ m   (c) $20\sqrt{3}$ m   (d) none of these

3. A 1.5m tall boy stands at a distance of 2m from lamp post and casts a shadow of 4.5m on the ground. Find the height of the lamp post.
   (a) 3 m   (b) 2.5 m   (c) 5 m   (d) none of these

4. The height of the tower is 100m. When the angle of elevation of the sun changes from 30^0 to 45^0, the shadow of the tower becomes 'x' meters less. The value of 'x' is

   (a) $100\sqrt{3}$ m   (b) 100 m   (c) $100(\sqrt{3} - 1)$ m   (d) $\dfrac{100}{\sqrt{3}}$

5. The tops of two poles of height 20m and 14m are connected by a wire. If the wire makes an angle of 30^0 with horizontal, then the length of the wire is
   (a) 12 m   (b) 10 m   (c) 8 m   (d) 6 m

6. If the angles of elevation of a tower from two points distant a and b (a > b) from its foot and in the same straight line from it are 30^0 and 60^0, then the height of the tower is

   (a) $\sqrt{a+b}$ m   (b) $\sqrt{a-b}$ m   (c) $\sqrt{ab}$ m   (d) $\sqrt{\dfrac{a}{b}}$ m

7. The angles of elevation of the top of a tower from two points at a distance of 'a' m and 'b' m from the base of the tower and in the same straight line with it are complementary, then the height of the tower is

   (a) $\sqrt{a+b}$ m   (b) $\sqrt{a-b}$ m   (c) $\sqrt{ab}$ m   (d) $\sqrt{\dfrac{a}{b}}$ m

8. From the top of a cliff 25m high the angle of elevation of a tower is found to be equal to the angle of depression of the foot of the tower. The height of the tower is
   (a) 25 m   (b) 50 m   (c) 75 m   (d) 100 m

9. If the angle of elevation of a cloud from a point 200m above a lake is 30^0 and the angle of depression of its reflection in the lake is 60^0, then the height of the cloud above the lake is
   (a) 200 m   (b) 500 m   (c) 30 m   (d) 400 m

10. The angle of elevation of a cloud from a point 'h' meter above a lake is 'α'. The angle of depression of its reflection in the lake is 45^0. The height of the cloud is

    (a) h.tanα   (b) $\dfrac{h(1+\tan\alpha)}{(1-\tan\alpha)}$ (c) $\dfrac{h(1-\tan\alpha)}{(1+\tan\alpha)}$ (d) none of these