CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-X

Subject: MATHEMATICS

Chapter Name : Heights & Distances (Chap : 9)

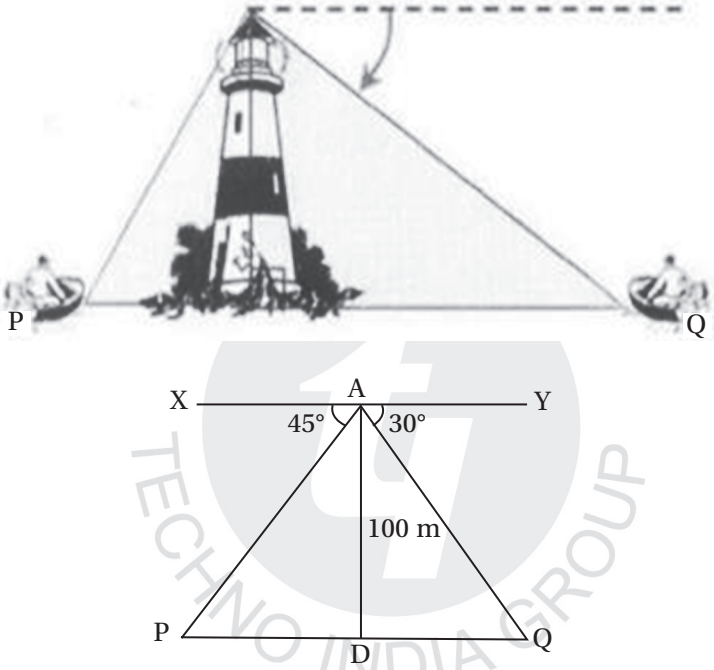
Total : 4 Marks (expected) [CBQ(1)-4 Marks]

Level - 2 (Higher order)

Case Based Question (CBQ) :

Case Study - 1

1. A boy is standing on the top of light house. He observed that boat P and boat Q are approaching the light house from opposite directions. He finds that angle of depression of boat P is 45° and angle of depression of boat Q is 30°. He also knows that height of the light house is 100 m .



Based on the above information, answer the following questions.

(i) What is the measure of ∠APD ?

(ii) What is tthe measure of ∠ AQD ?

(iii) (A) Find length of PD.

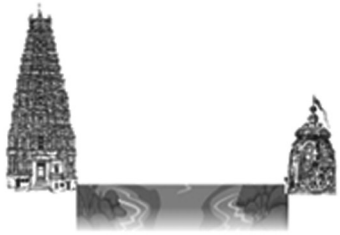
OR

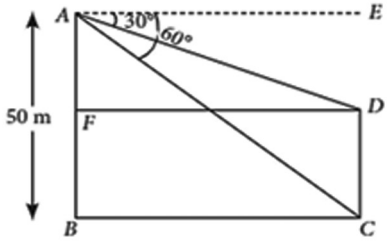
(iii) (B) Find length of QD.

Case Study - 2

2. Visit to Temple

There are two temples on each bank of a river. One temple is 50 m high. A man, who is standing on the top of 50 m high temple, observed from the top that angle of depression of the top and foot of other temple are 30° and 60° respectively. (Tak $\sqrt{3} = 1.73$)





Based on the above information, answer the following questions.

(i) Measure of ∠ADF is equal to _____ .

(ii) Measure of ∠ACB is equal to _____ .

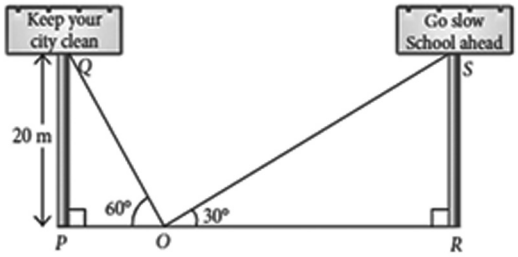
(iii) (A) Find the width of the river.

OR

(iii) (B) Find the height of another temple.

3. Hoardings on the Road.

Two hoardings are put on two poles of equal heights standing on either side of the road. From a point between them on the road the angle of elevation of the top of poles are 60° and 30° respectively. Height of the each pole is 20 m .



Based on he above information,answer the following questions. (Take $\sqrt{3} = 1.73$).

(i) Find the length of PO.

(ii) Find the length of RO.

(iii) (A) Find the width of the road.

OR

(iii) (B) If the angle of elevation made by pole PQ is 45°, then the length of PO = _____ .

ANSWER

1. (i) 45° (ii) 30° (iii) (A) 100 m OR (iii) (B) $100\sqrt{3}$m

2. (i) 30° (ii) 60° (iii) (A) 28.9 m OR (iii) (B) 33.33 m

3. (i) $\frac{20}{3}\sqrt{3}$ m (ii) $20\sqrt{3}$m (iii) (A) 46.24 m OR (iii) (B) 20 m