

TRIGONOMETRY REVISION WORKSHEET 5

[15]

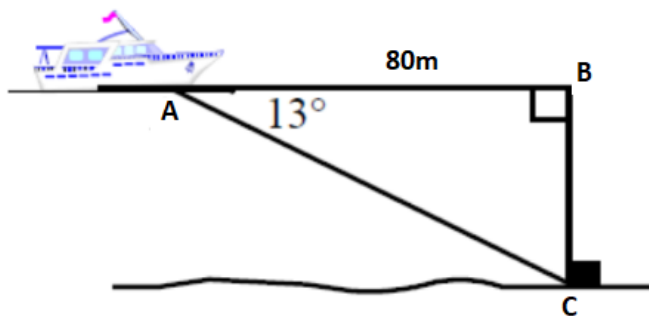
Grade 10 - APPLIED TRIGONOMETRY EXERCISES

When completing these revision questions keep in mind that you are aiming for a work pace of 'a mark a minute'. You should therefore aim to stick to the mark allocation given to each question.

Practice frequently to improve your understanding and complete your work quickly but correctly.

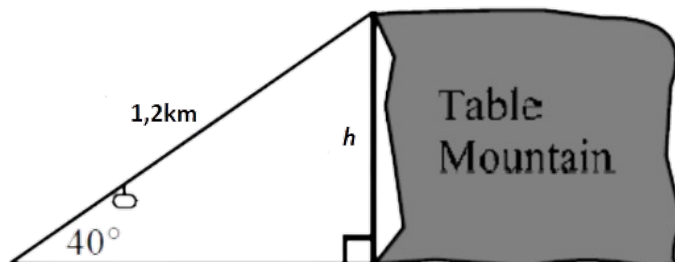
EXERCISE

1. Shark spotters, point A, on the lookout for sharks, spot one at the bottom of the ocean, point C, at an angle of depression 13° from the boat to the shark. They then sail 80m across the ocean so that they are directly above the shark at point B. In order to determine the amount of oxygen they will need when diving to the shark, they first need to calculate the depth at which the shark lies.

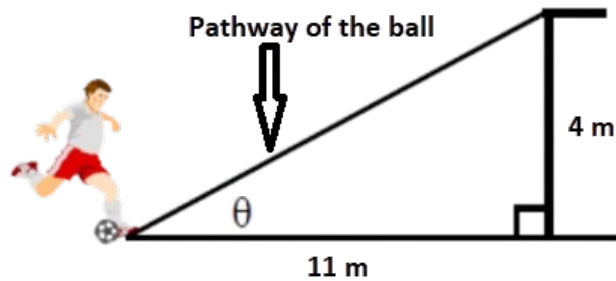


Calculate the depth at which the shark lies - i.e. calculate BC.

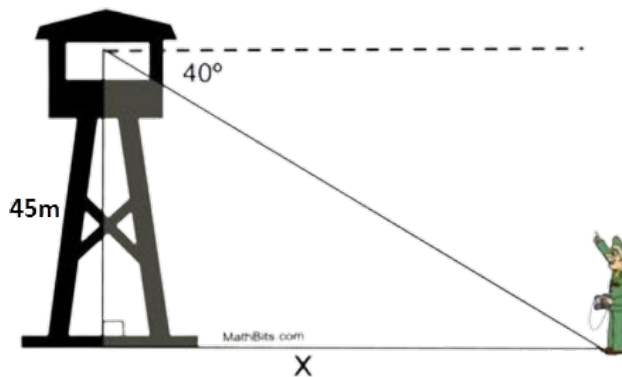
2. The Cape Town cable car takes tourists to the top of Table Mountain. The cable is 1,2 kilometers in length, and makes an angle of 40° with the ground. Calculate the height (h) of the mountain.



3. In a Premier League soccer game a player kicked the ball from a distance of 11 meters from the goal posts, which are 4 meters in height, in order to score a goal for his team. The angle formed by the pathway of the ball and the ground is θ .



- a) Calculate the largest angle θ for which the player will possibly score a goal.
 b) will the player score a goal if the angle $\theta = 22^\circ$? Explain.
4. From the top of a fire tower, a forest ranger sees his partner on the ground at an angle of depression of 40° . If the tower is 45 meters in height, how far is the partner from the base of the tower (to the nearest tenth of a meter)?



5. A radio station tower was built in two sections. From a point 87m from the base of the tower, the angle of elevation of the top of the first section is 25° , and the angle of elevation of the top of the second section is 40° . To the nearest meter, what is the height of the top section of the tower?

