

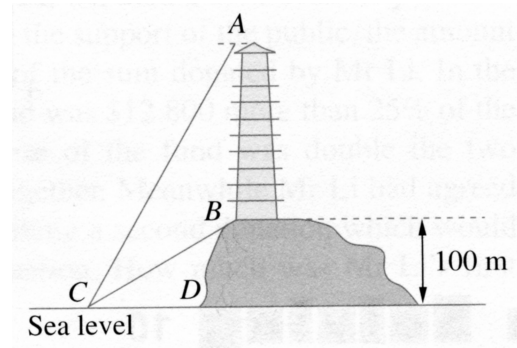
# Chapter 9- Problem

## More Trig

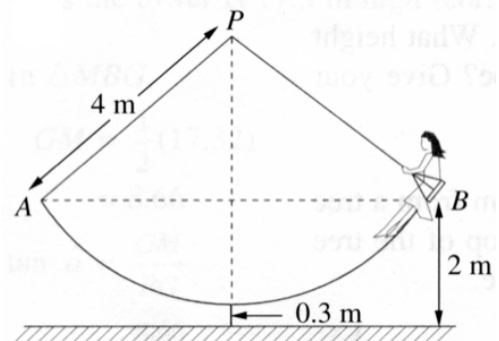
### Goals

I can use what I have studied to solve an applied problem

1. A pagoda stands on a hill 100 m above sea level. If  $m\angle ACD = 60^\circ$  and  $m\angle BCD = 30^\circ$ , find the height,  $AB$ , of the pagoda. Justify with clear and complete work. Round your answer to the nearest tenth of a meter.

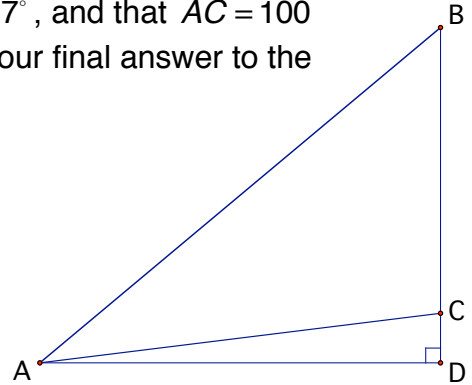


2. The ropes of a swing are 4 meters long, and the seat is 30 cm above the ground when it is at its lowest point. When Gwyneth uses the swing, the seat reaches a height of 2 meters above the ground on each side of vertical. What is the angle through which she swings? Justify with clear and complete work. Round your final answer to the nearest hundredth of a degree.

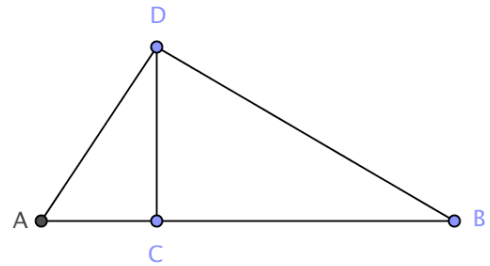


### Chapter 9: More Trig.

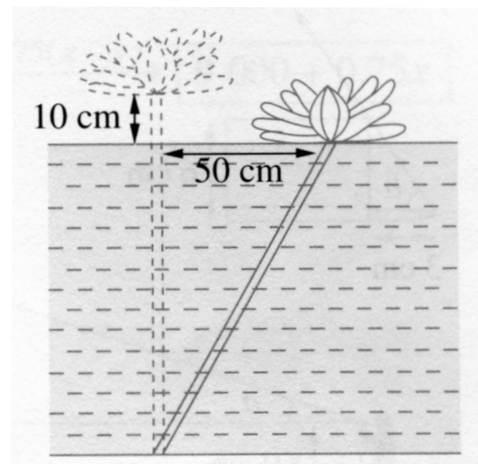
3. Find  $BC$  assuming that  $m\angle CAB = 33^\circ$ ,  $m\angle CAD = 7^\circ$ , and that  $AC = 100$  feet. Justify with clear and complete work. Round your final answer to the nearest tenth of a foot.



4. In the triangle at shown,  $m\angle ADB = 90^\circ$  and  $m\angle ACD = 90^\circ$ . Find the measure of  $\overline{BC}$ .

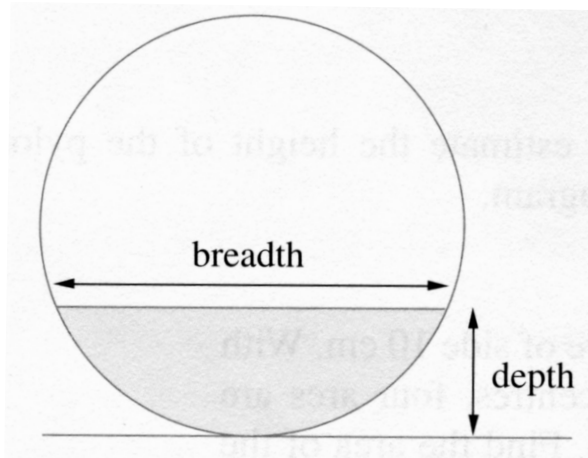


5. A water-lily originally 10 cm above the water surface is blown 50 cm sideways by a strong wind as shown in the drawing. Find the depth of the pond and the angle, to the nearest tenth of a unit, through which the water-lily was deflected. Justify with clear and complete work. Round answers to the nearest tenth of a unit.



## Chapter 9: More Trig.

6. The figure shows a cross section of a cylindrical pipe of diameter 75 cm. The pipe is laid out horizontally to carry away water. Solve each of the following problems. Justify with clear and complete work. Round final answers to the nearest tenth.



- Find the depth of the water if the breadth of the water surface is 60 cm.
- How many liters of water would be in each 10 meter length of pipe if it was filled as described above?
- Suppose the ends of the pipe were closed off and the pipe was stood on one end. What would be the depth of the water?

Name \_\_\_\_\_ Date \_\_\_\_\_ Class # \_\_\_\_\_ Block \_\_\_\_\_  
Name \_\_\_\_\_

When **you and your partner** are convinced you have the correct answer, or when a hint is needed, bring this sheet over to me.

Problem	Answer	Record
1		Correct __ Hint __ Hint __
2		Correct __ Hint __ Hint __
3		Correct __ Hint __ Hint __
4		Correct __ Hint __ Hint __
5		Correct __ Hint __ Hint __
6		Correct __ Hint __ Hint __

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