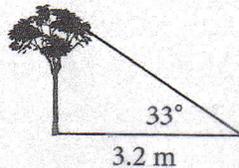


# HOMEWORK: Applying Trigonometry

Date: \_\_\_\_\_

①

From a point 3.2 m from the base of a tree, the angle of elevation to the top of the tree is  $33^\circ$ . Find the height of the tree.



②

The angle of elevation to the top of the school is  $37^\circ$  from where you are standing 11.2 m from the wall of the school. Find the height of the school.

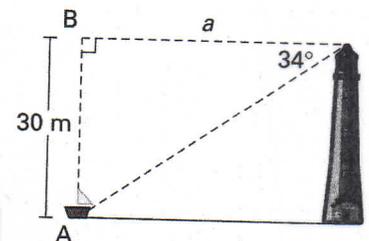
③

From a spot 60' from the base of a building, Shanav measures the angle of elevation to the top of the building to be  $48^\circ$ , and the angle of elevation to the top of an antenna on top of the building to be  $56^\circ$ .

- a) Find the height of the building.
- b) Find the height of the antenna.

④

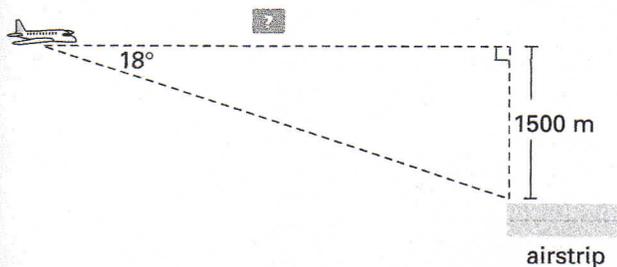
**Lighthouse** The angle of depression from the top of a lighthouse is  $34^\circ$ . The lighthouse is 30 m tall. How far is the boat from the base of the lighthouse?



OVER =>

5

**Plane landing** An airplane is flying at an altitude of 1500 m. The angle of depression to an airstrip is  $18^\circ$ . At this point, how far is the airplane from the landing point?



6

**Spotlight** A searchlight is at the top of a 25-m tall building. The spotlight needs to illuminate the area between two fences, 12 m and 35 m away, each 1 m tall. The angles will be set on the motor controlling the movement of the spotlight.

- a) What is the angle of depression to the top of fence #2?
- b) Draw a diagram showing the angle of depression to the top of fence #1?
- c) Find the angle of depression to the top of fence #1.

