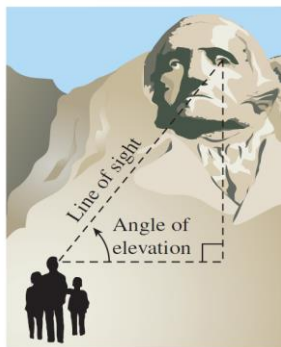


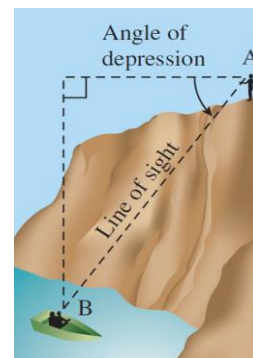
Notes (5.0)-----Solving Problems With Trigonometry



Remember which angle is which!!!

***Angle of Elevation**—from the horizontal up

***Angle of Depression**—from the horizontal down



EXAMPLE 1 Using Angle of Depression

The angle of depression of a buoy from the top of the Barnegat Bay lighthouse 130 feet above the surface of the water is 6° . Find the distance x from the base of the lighthouse to the buoy.

EXAMPLE 2 Making Indirect Measurements

From the top of a 100-ft building a man observes a moving car. If the angle of depression of the car changes from 22° to 46° during the period of observation, how far does the car travel? (can you tell if the car is moving to or from the building? Does this matter? Draw a picture for both)

EXAMPLE 3 Finding Height Above Ground

A large, helium-filled penguin is awaiting the start of a parade. Two cables attached to the underside of the penguin make angles of 48° and 40° with the ground (see diagram). If the cables are attached to the ground 10 feet from each other, how high above the ground is the penguin?

