

**Lesson 8-8 MACT Answer Key**

Sam is on the diving board at the neighborhood pool. Jennie is in the pool, and a lifeguard sits at her station on the opposite end of the pool. Classify each angle as an angle of elevation or an angle of depression.



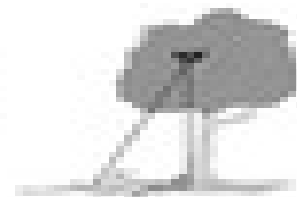
1.  $\angle$  of Depression

2.  $\angle$  of Elevation

3.  $\angle$  of Depression

4.  $\angle$  of Elevation

Lisa sees a bird's nest high in a tree. She decides to use trigonometry to estimate how high the nest is. She walks 25 feet from the base of the tree. She measured an angle of elevation from the ground to the nest of  $62^\circ$ . Find how high the nest is above the ground. *Show all work.*



**28 Feet**

6. Lisa spots the weather bird on a branch above the nest. She measured an angle of elevation to the bird of  $62^\circ$ . Find how high the weather bird is above the ground. *Show all work.*

**50 Feet**

Ernie, a famous artist, stands on a 10-meter-high platform.

7. Ernie measures a  $60^\circ$  angle of depression to the base of the other platform. Find the distance between the bases of the platforms to the nearest tenth of a meter. *Show all work.*

**11.9 Meters**



8. Ernie's partner, Dan, is on the ground doing a safety check on the left. Ernie measures a  $70^\circ$  angle of depression to Dan. Find the distance to the nearest tenth of a meter from Dan to the base of Ernie's platform. *Show all work.*

**1.9 Meters**