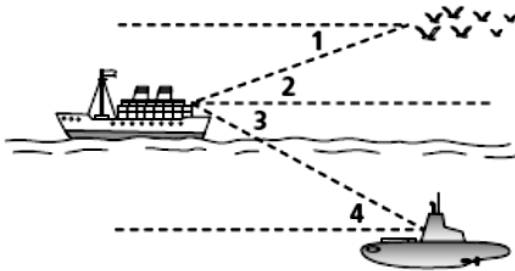


Practice 9-3

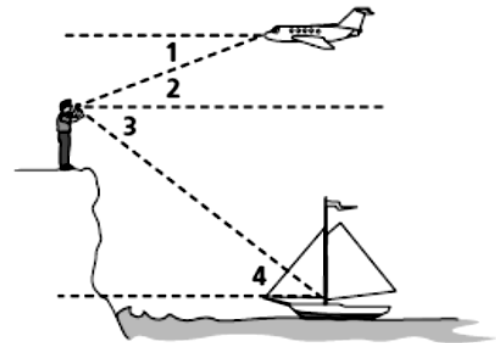
Angles of Elevation and Depression

Describe each angle as it relates to the diagram.

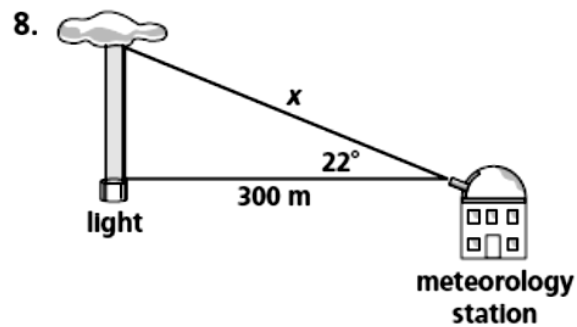
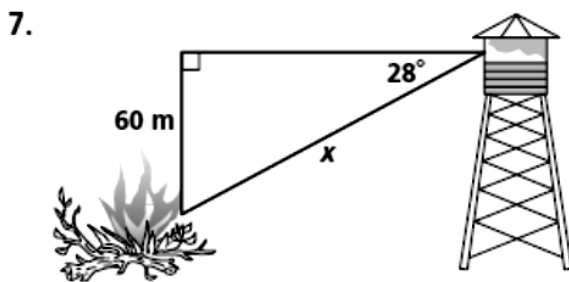
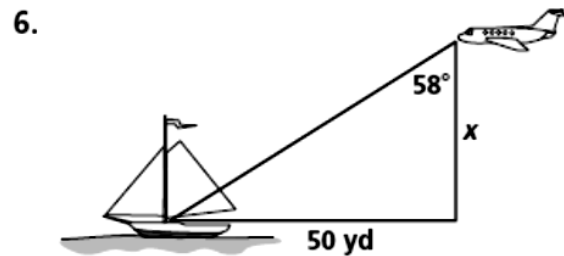
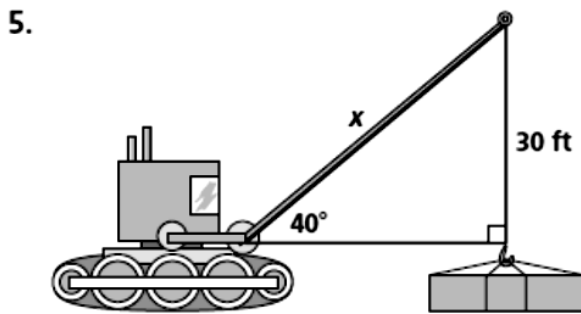
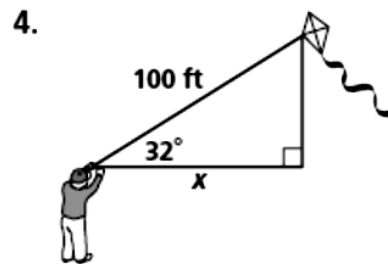
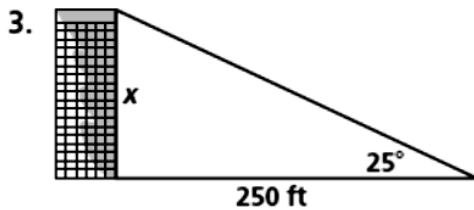
1. a. $\angle 1$
- b. $\angle 2$
- c. $\angle 3$
- d. $\angle 4$



2. a. $\angle 1$
- b. $\angle 2$
- c. $\angle 3$
- d. $\angle 4$



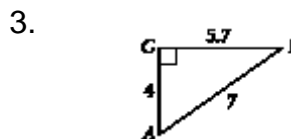
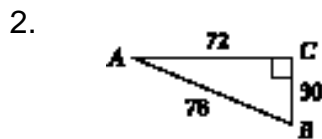
Find the value of x . Round the lengths to the nearest tenth.



9. A person standing 30 ft from a flagpole can see the top of the pole at a 35° angle of elevation.
 - a. Draw a diagram.
 - b. The person's eye level is 5 ft from the ground. Find the height of the flagpole to the nearest foot.

Check Point Quiz Page 488 # 1 - 10

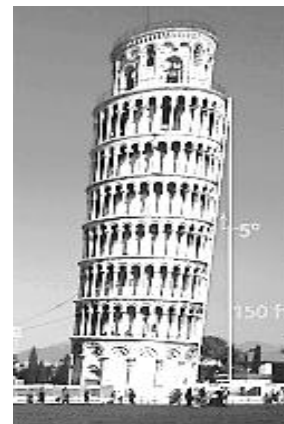
Write the tangent, sine, and cosine ratios for $\angle A$ and $\angle B$.



Find the value of x . Round each segment length to the nearest tenth and each angle measure to the nearest whole number.



7. Landmarks The Leaning Tower of Pisa reopened after a 10-year project reduced its tilt from a vertical by 0.5° . How far from the base of the tower will an object land if it is dropped the 150 ft shown in the photo?



8. Navigation A captain of a sailboat sights the top of a lighthouse at a 17° angle of elevation. A navigation chart shows the height of the lighthouse to be 120 m. How far is the sailboat from the lighthouse?

9. Choose the answer that states a reasonable way to decide which trigonometric ratio to use to solve a problem.

- A. Identify the unknown you want to find. Then always use the adjacent side and angle.
- B. Identify the unknown you want to find. Then find two pieces of known information that will let you write a trigonometric-ratio equation you can solve for the unknown.
- C. Identify the unknown you want to find. Then always use the side and angle opposite the unknown.

10. Hang gliding Students in a hang gliding class stand on the top of a cliff 70 m high. They watch a hang glider land on the beach below. The angle of depression to the hang glider is 72° . How far is the hang glider from the base of the cliff?

