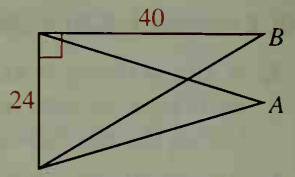
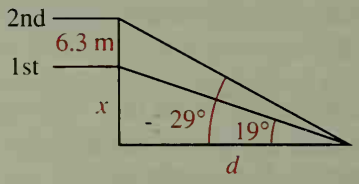
13. A soccer goal is 24 ft wide. Point A is 40 ft in front of the center of the goal. Point B is 40 ft in front of the right goal post.

a. Which angle is larger, $\angle A$ or $\angle B$?

b. From which point would you have a better chance of kicking the ball into the goal? Why?



C **14.** From the stage of a theater, the angle of elevation of the first balcony is 19°. The angle of elevation of the second balcony, 6.3 m directly above the first, is 29°. How high above stage level is the first balcony? (*Hint*: Use tan 19° and tan 29° to write two equations involving x and d. Solve for d, then find x.)



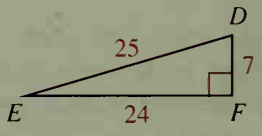
Self-Test 2

Exercises 1–5 refer to the diagram at the right.

1. $\tan E = \frac{?}{?}$ **2.** $\cos E = \frac{?}{?}$

3. $\sin E = \frac{?}{?}$ **4.** $\tan D = \frac{?}{?}$

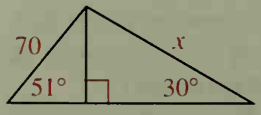
5. To the nearest integer, $m\angle D =$ ___?___.



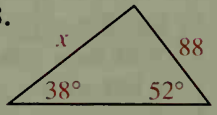
Find the value of x to the nearest integer.

6.

7.



8.



9. From a point on the ground 100 m from the foot of a cliff, the angle of elevation of the top of the cliff is 24°. How high is the cliff?