Name_____   **Date**_____

ASSIGNMENT 65 LESSON 7.5 SHOW ALL WORK FOR FULL CREDIT

Find tan *A* and tan *B*. Write each answer as a decimal rounded to four decimal places.

1.

2.

3.
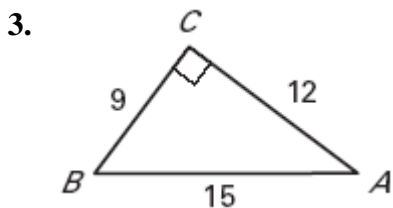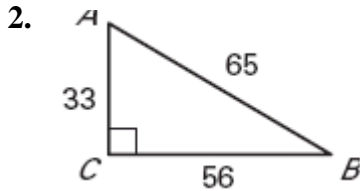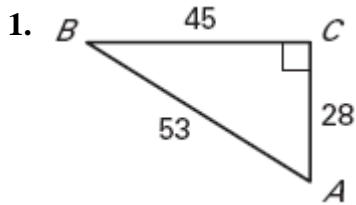
Find the value of *x* to the nearest tenth.
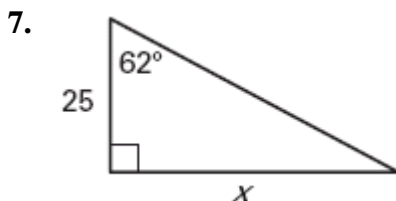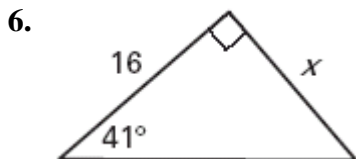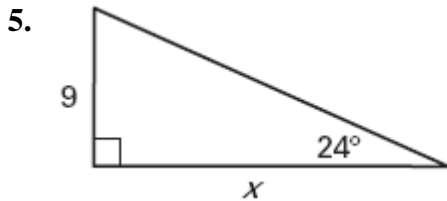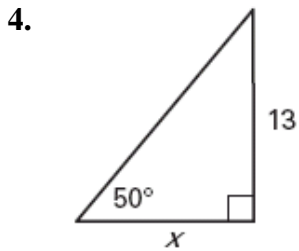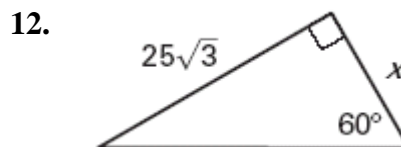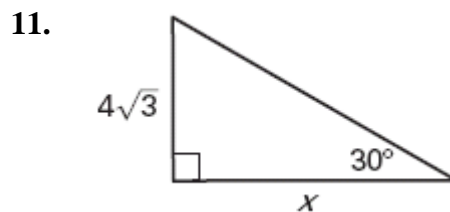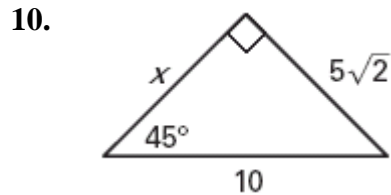
4.

5.

6.

7.

8.

9.
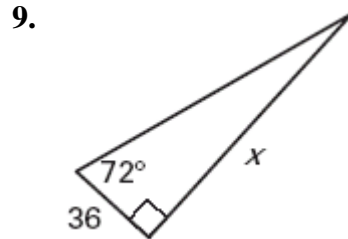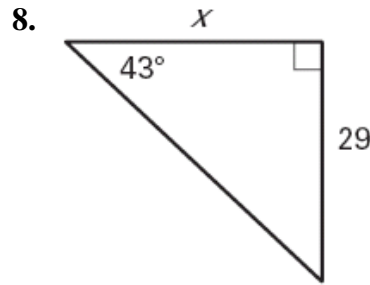
Find the value of *x* using the definition of tangent. Then find the value of *x* using the 45°-45°-90° Triangle Theorem or the 30°-60°-90° Triangle Theorem. *Compare* the results.

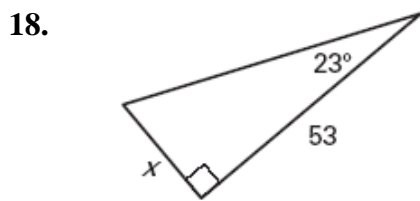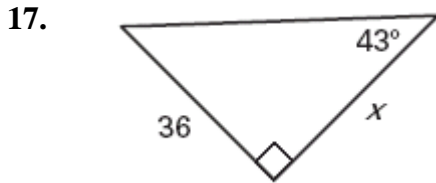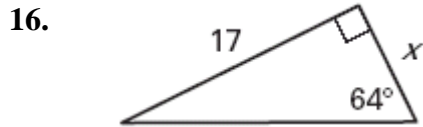**10.**

11.

12.

For acute ∠*A* of a right triangle, find tan *A* by using the 45°-45°-90° Triangle Theorem or the 30°-60-90° Triangle Theorem.

13. $m\angle A = 30°$

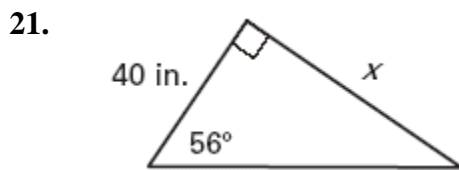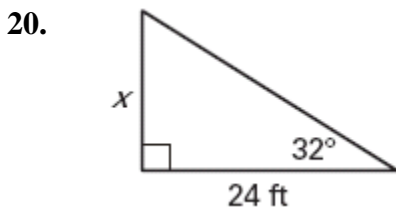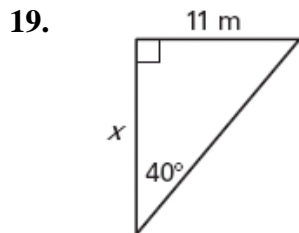**14.** $m\angle A = 45°$

15. $m\angle A = 60°$

Use a tangent ratio to find the value of x. Round to the nearest tenth.

16.

17
□
x
64°

17.

43°
x
36
□

18.

23°
53
x
□

Find the area of the triangle. Round your answer to the nearest tenth.

19.

11 m
□
x
40°

20.

x
□
32°
24 ft

21.

40 in.
□
x
56°

Find the perimeter of the triangle. Round to the nearest tenth.

22.

□
36°
49 in.

23.

34 ft
□
71°

24.

44°
62 ft
□
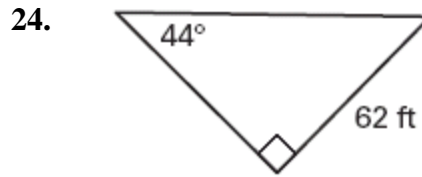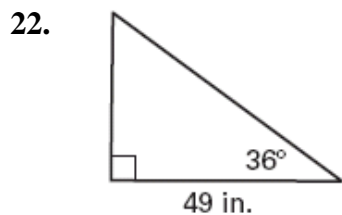
25. Model Rockets To calculate the height h reached by a model rocket, you move 100 feet from the launch point and record the angle of elevation θ to the rocket at its highest point. The values of θ for three flights are given below. Find the rocket's height to the nearest foot for the given θ in each flight.

  a. $\theta = 77°$

  b. $\theta = 81°$

  c. $\theta = 83°$

h
θ
100 ft
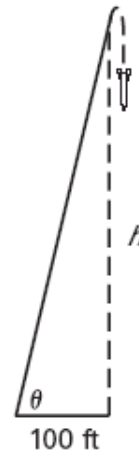
26. **Drive-in Movie** You are 50 feet from the screen at a drive-in movie. Your eye is on a horizontal line with the bottom of the screen and the angle of elevation to the top of the screen is 58°. How tall is the screen?

58°
50 ft