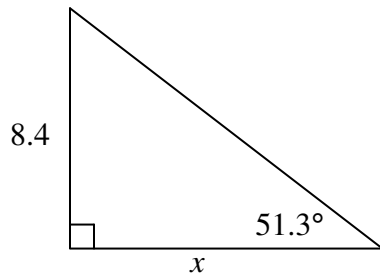Geometry Ch. 8 Practice Test Part 2
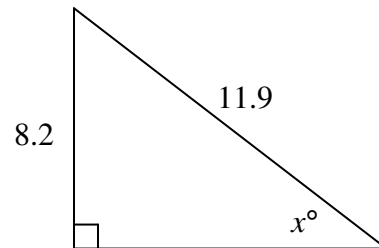
(Good idea to use a separate piece of paper to solve your problems out.)

For problems 15-18, Find x. Show your ratios, give your exact answer, then round angle measures and side lengths to the nearest tenth.
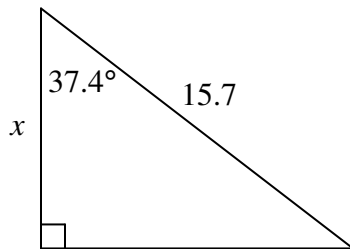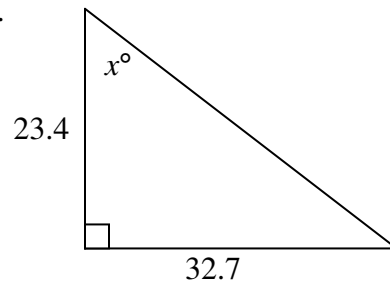
15.

8.4

51.3°

x

16.

11.9

8.2

$x°$

17.

37.4°   15.7

x

18.

$x°$

23.4

32.7

a) **Draw and label the right triangle that models each situation.**
b) **Set up your trig ratio equation.**
c) **Solve, showing your exact answer AND an answer rounded to the nearest tenth, including UNITS.**

19. Sarah is flying a kite. She has let out 74 feet of string and ties the string to the ground. If the kite is 20 yards in the air find the angle of elevation from the ground to the string.

20. An airplane is 2560 feet in the air. The angle of depression from the plane to the airport is 22.4°. How far is the ground distance from the airplane from the airport?

Use the Law of Sines or the Law of Cosines to answer each question.

Recall: Law of Cosines →
$$a^2 = b^2 + c^2 - 2bc\cos A$$
$$b^2 = a^2 + c^2 - 2ac\cos B$$
$$c^2 = a^2 + b^2 - 2ab\cos C$$

21.

In $\triangle ABC$, $m\angle A = 46$, $m\angle B = 105$, and $c = 19.8$. Find a to the nearest tenth.

A 29.4   **B** 28.5   **C** 15.7   **D** 14.7

22.

In $\triangle LMN$, $\ell = 42$, $m = 61$, and $m\angle N = 108$. Find n to the nearest tenth.

F 7068.4   **G** 84.1   **H** 79.2   **J** 24.7