Name_____

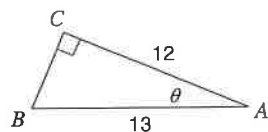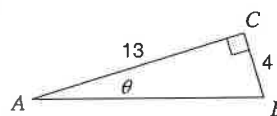# Right Triangle Trig. - Finding Missing Sides and Angles

Date_____ Period____

Find the measure of each angle indicated. Round to the nearest tenth.
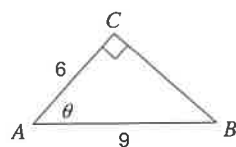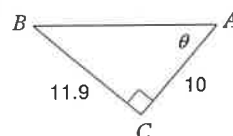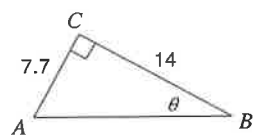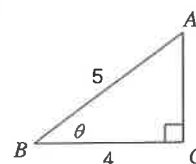
1)

2)

3)

4)
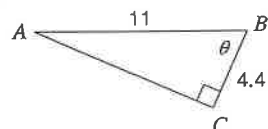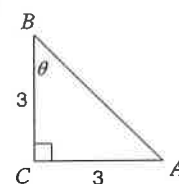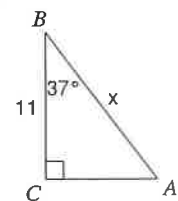

5)

6)

7)

8)

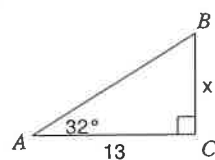**Find the measure of each side indicated. Round to the nearest tenth.**
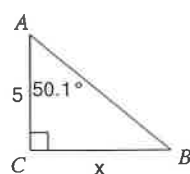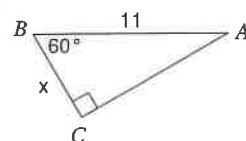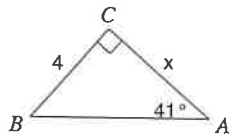
9)

10)

11)

12)

13)

14)
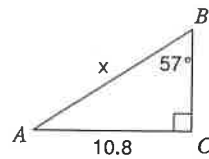
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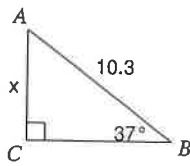
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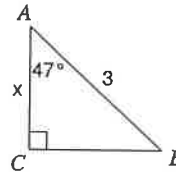
Solve each triangle. Round answers to the nearest tenth.

17)
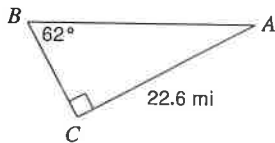
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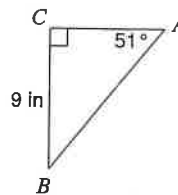
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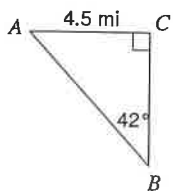
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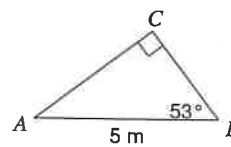
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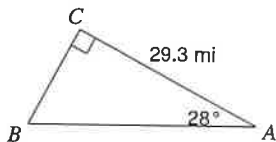
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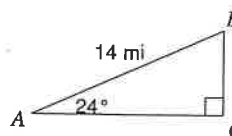
23)
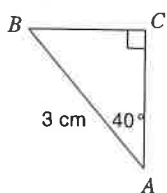
24)
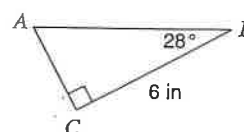
Section Assignment 1.3 Part 2
Solving Right Triangle Problems

Answer the following questions to the nearest tenth.

1. A guy wire must be attached to telephone pole 8.2 meters above the ground and should make an angle of 50º with the ground. How long should the wire be? (2 marks)

2. From the top of the CN Tower, the angle of depression to the tip of the tower's shadow is 88º. The shadow is 19.5 m long. How tall is the CN Tower? (2 marks)

3. Two buildings are 31.7 m apart. From the 12th floor of the shorter building, the angle of elevation to the top of the taller building is 27º. The angle of depression to the base of the taller building is 48º. What is the height of the taller building?
(5 marks)

4. Two tracking stations, A and B, measure the height of a rocket to be 4 km. The angles of elevation of the rocket are found to be 72º and 55º. How far apart are the stations A and B?
(5 marks)

rocket

4 km

72°   55°
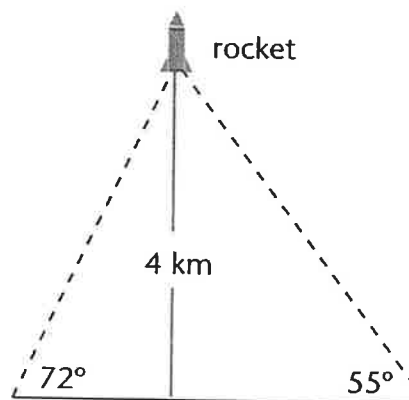
3. Jen is helping to build a wheelchair ramp that will have a 6% grade (i.e., a rise of 6 cm for a horizontal change of 100 cm). Which of the following expressions will calculate the angle between the ground and the top part of the ramp?
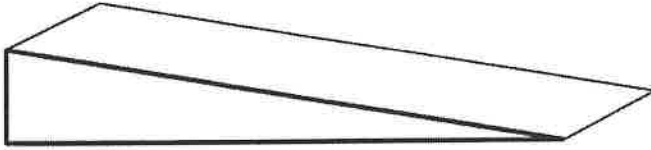
a. $\cos = \left(\dfrac{6}{100}\right)$

b. $\tan^{-1} = \left(\dfrac{6}{100}\right)$

c. $\cos^{-1} = \left(\dfrac{6}{100}\right)$
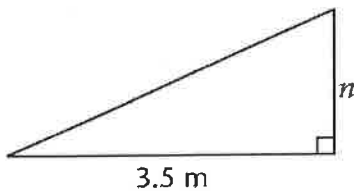
d. $\tan = \left(\dfrac{6}{100}\right)$

You may use your calculator for the last six questions.

4. Using a protractor, measure one of the unknown angles and determine the unknown length n.

3.5 m

a. 8.4 m

b. 1.5 m

c. 1.3 m

d. 3.2 m

5. In $\triangle DEF$; $\angle D = 90°$, DE = 5 m, and EF = 13 m. Calculate the measure of $\angle EFD$.

a. 69°

b. 21°

c. 67°

d. 23°

6. Katie is making plans to build a skateboard ramp, and she needs to know how much wood to buy. Using the diagram below, calculate the area of the top part of the ramp.

2 ft

4 ft

9°
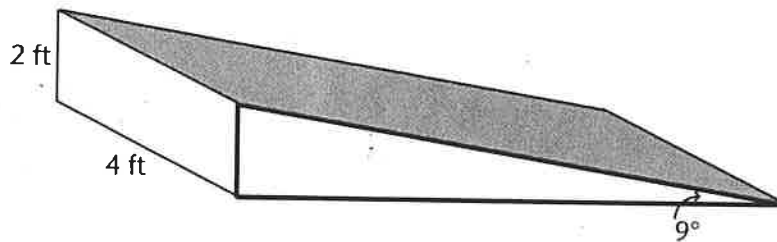
a. 25.6 square feet

b. 102.3 square feet

c. 50.5 square feet

d. 51.1 square feet

7. A 9 metre tall house is located 14 m away from a tree. The angle of elevation from the roof of the house to the tree is 25°. If the tree falls directly toward the house, which of the following will occur?

25°

14 m
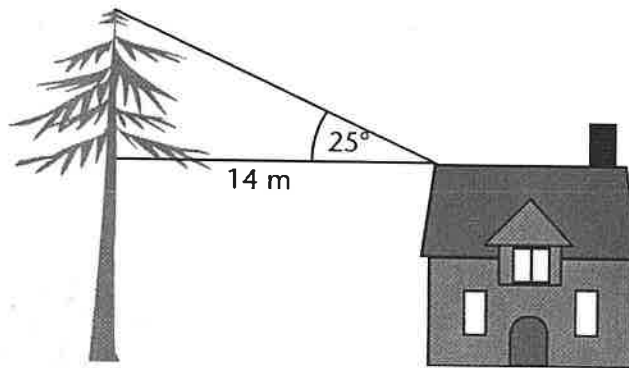
a. The top of the tree will just touch the side of the house.

b. The tree will not hit the side of the house.

c. The tree will hit the side of the house.

d. There is not enough information to tell what will happen.