Name _____ Class _____ Date _____

I can classify a triangle as acute, right or obtuse given the length of its sides
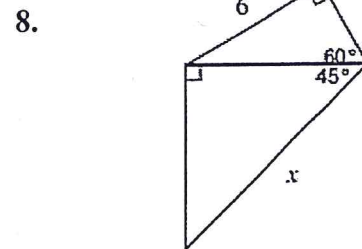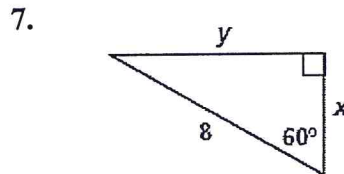**Example:** The lengths of three sides of a triangle are given. Describe each triangle as *acute, right,* or *obtuse.*
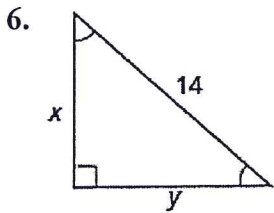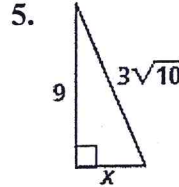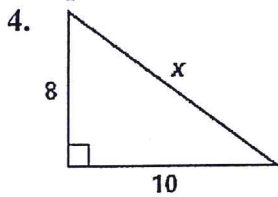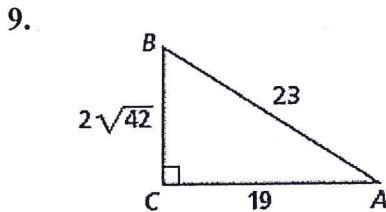
1. 14, 48, 50

2. 6, 7, 9

3. $\sqrt{11}, 5, 7$

I can use Pythagorean Theorem and special right triangles relations to solve for missing side
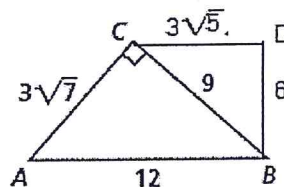**Example:** Find the values of the variables. Leave your answers in simplest radical form.

4.

8, x, 10

5.

9, $3\sqrt{10}$, x

6.

14, x, y

7.

y, x, 8, 60°

8.

6, 60°, 45°, x

I can determine the ratio of sin Θ, cos Θ and tan Θ, when Θ is an acute angle of a right triangle and the sides of the triangle are given.
Example: Express sin A, cos A, and tan A as ratios.

9.

B, $2\sqrt{42}$, 23, C, 19, A

10.

C, $3\sqrt{5}$, D, $3\sqrt{7}$, 9, 6, A, 12, B

sin<ABC=

cos<BCD=
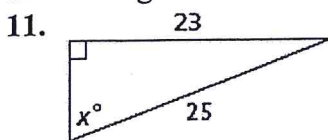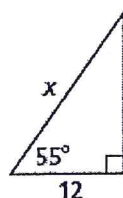
tan<BAC=

sin<CBD=

tan<BCD=

I can use SOHCAHTOA to find the measure of a missing side or a missing angle of a right triangle
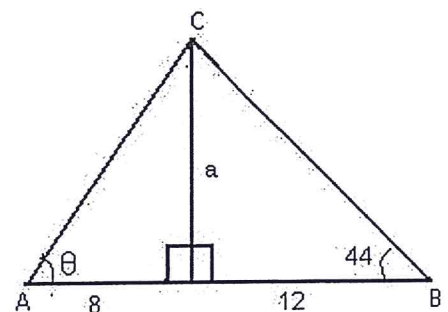**Example:** Find the value of x. Round lengths of segments to the nearest tenth and angle measures to the nearest degree.
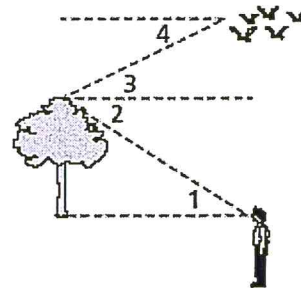
11.

23, $x°$, 25

12.

x, 55°, 12

13.

C, a, θ, 44, A, 8, 12, B

I can identify angle of depression and angle of elevation
Example: Describe each angle as it relates to the objects in the diagram.

   a. ∠1   **b.** ∠2   **c.** ∠3   **d.** ∠4

I can solve different situations applying properties of right triangle.
Example: **14.** A surveyor measures the top of a building 50 ft away from him. His angle-measuring device is 4 ft above ground. The angle of elevation to the top of the building is 63°. How tall is the building?

15. A forest ranger looking out from a ranger's station can see a forest fire at a 35° angle of depression. The ranger's position is 100 ft above the ground. How far is it from the ranger's station to the fire?

16. Let Θ and β be two angles so $\Theta + \beta = 90°$. What is the value of $\sin\Theta - \cos\beta$?

17. If m<ADB= 50° and m<BAD = 90°, what is the value of x?