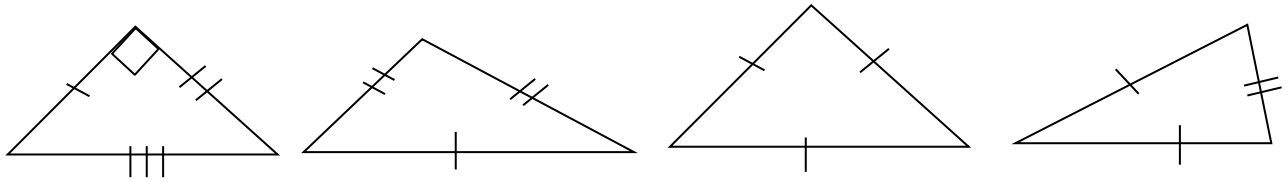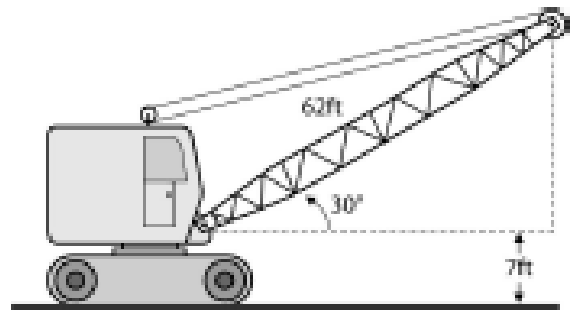Name:_____

Class:_____

1. Classify the following triangles

2. The arm of a steel crane is 62 feet long. When it is fully extended, the crane arm forms a 30° angle with a line parallel to the ground. How many feet above the ground is the top of the crane?
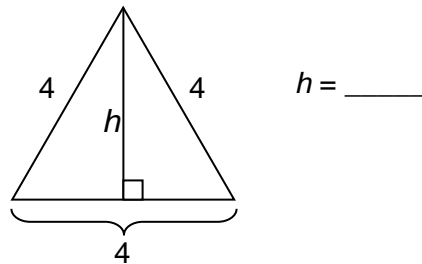
62ft

30°

7ft

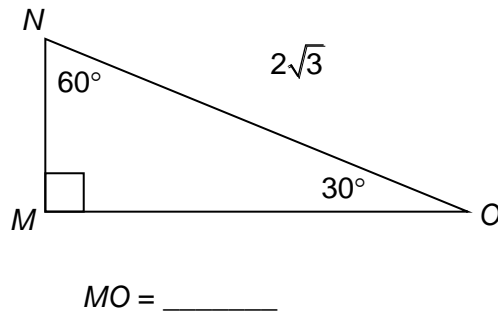3. A cable for a 27 foot tall power transformer forms a 60° with the ground.

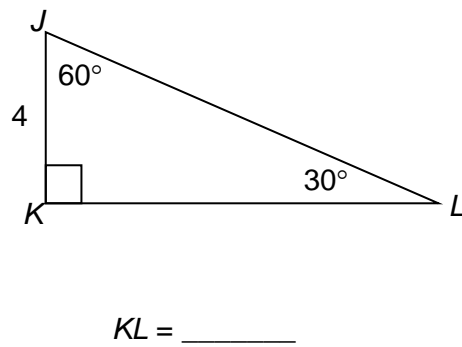A) Draw a picture of this situation.

B) How long is the cable?

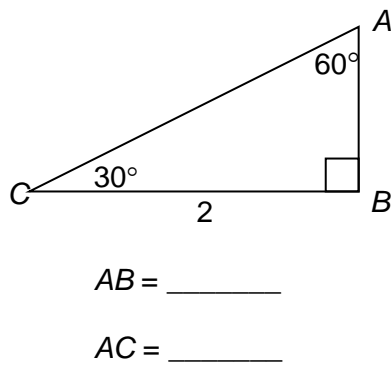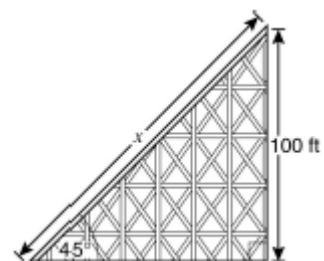4.

4   4 $h =$ _____

h

4

5.

N

60°

$2\sqrt{3}$

30°

M ⌐ O

MO = _____

6.

J

60°

4

30°

K L

KL = _____

7.

A

60°

30°

C 2 B

AB = _____

AC = _____

8. Matt wants to design the first section of a roller coaster track. He wants the ramp section to rise at 45° with the horizontal and connect at the top of a segment 100 feet high. Find x, the length of the ramp that Matt needs to complete his section of the coaster track? (Leave answer in simplest radical form.)
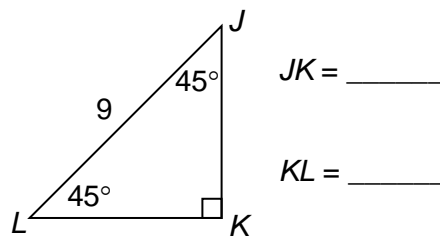
100 ft

45°

9. A square has a diagonal of $16\sqrt{2}$ inches. How long is each side of the square?
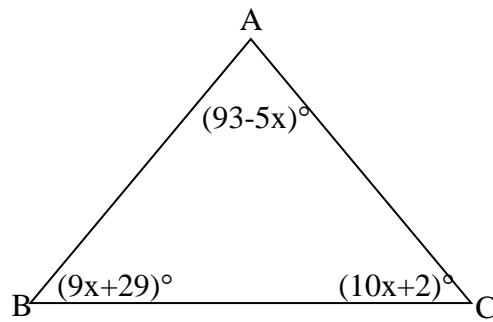
10. A square has side lengths of 23 inches. How long is each diagonal? (Leave answer in simplest radical form.)

11. Sam's square bedroom has a diagonal of $9\sqrt{2}$ feet. What is the perimeter of Sam's square bedroom?
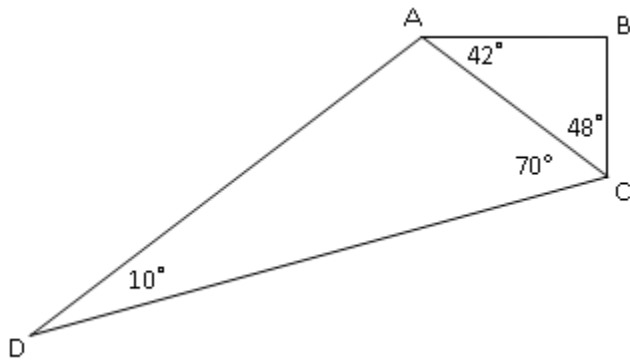
12.

$JK =$ _____

$KL =$ _____

13. Find the value of x and list the angles in order from greatest to least.

A

(93-5x)°

(9x+29)°

B

(10x+2)°

C

14. List the sides from shortest to longest. _____

A

42°

B

48°

70°

C

10°

D

15. Do the following side lengths form a triangle?

a. 8 10 12

b. 12 32 44

c. 1254 2314   3150

16. 22 feet , 48 feet and X feet are the sides of a triangle. Using an Inequality, what numbers can my missing side be?

_____ < X < _____

17. 104 feet , 75 feet and X feet are the sides of a triangle. Using an Inequality, what numbers can my missing side be?

_____ < X < _____

18.   Find Angle K   _____

K

(2x + 4°)

132°

M   J

112°

L

N