Trig Ratios
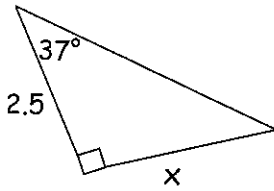Worksheet
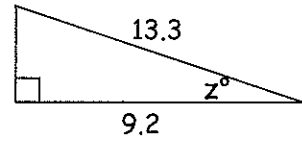
Name _____

I. Find the value of each variable.
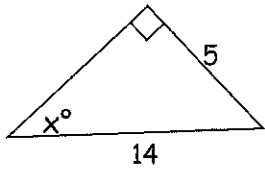
1.
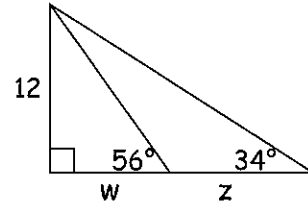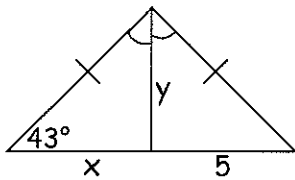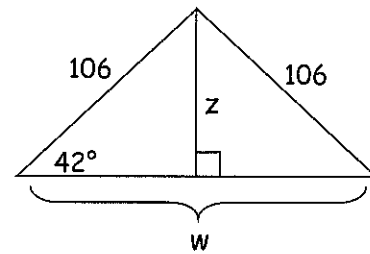

2.

3.

4.

5.

6.

8.

9.

9.

10.

9)

60°

60°

10

x

10)

60°

8

60°

x

11)

5

60°
60°

x

12)

$9\sqrt{6}$

60°

x

60°

13)

10

x

60°

60°

14)

6

60°
45°

x

15)

$10\sqrt{3}$

x

60°

60°

16)

x

60°

60°
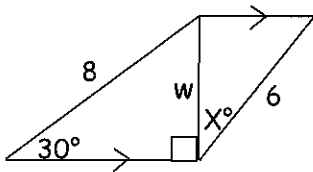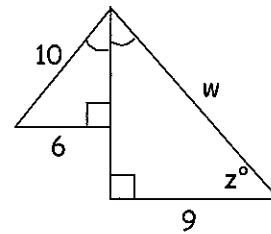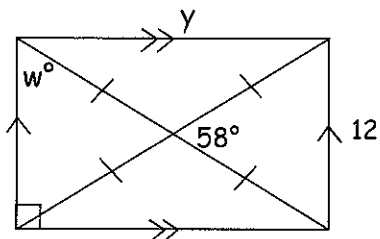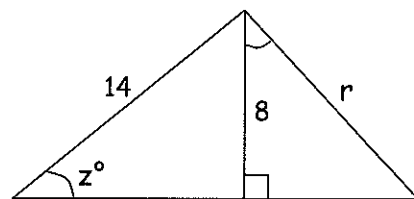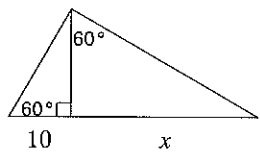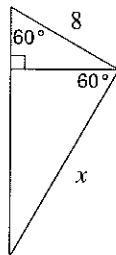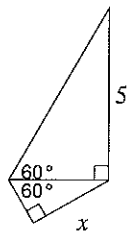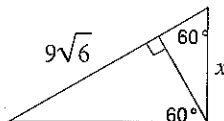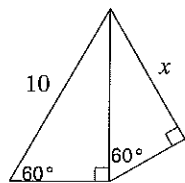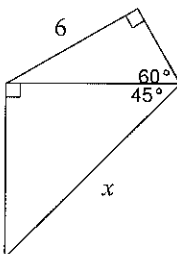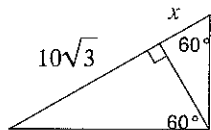
6
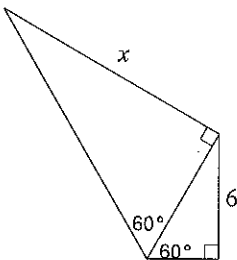
Name:_____

1. If the tangram piece F Is 2 square units, what are the individual areas of pieces C, B, A, D, E, and G?

   After finding the area of each of the pieces, identify the lengths of the sides of each of the polygons A, B, C, D, E, F, and G.
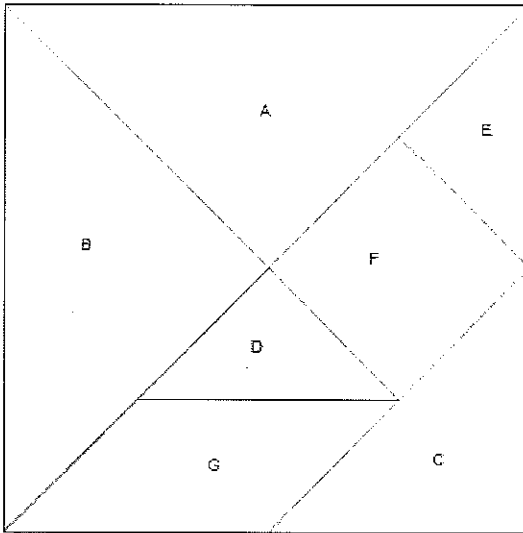
2. 🏛 **LOGICAL REASONING** **The quilt design in the photo is based on the pattern in the diagram below. Use the diagram in Exercises 31–34.**
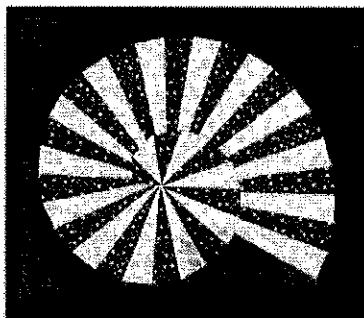
Wheel of Theodorus
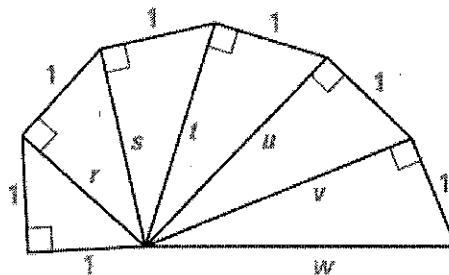
   31. Find the values of *r*, *s*, *t*, *u*, *v*, and *w*. Explain the procedure you used to find the values.

   32. Which of the triangles, if any, is a 45°-45°-90° triangle?

   33. Which of the triangles, if any, is a 30°-60°-90° triangle?

19. Square EFGH was created by connecting the midpoints of the sides of square ABCD.

    A. Label all side lengths and angle measures.

    B. What is the perimeter of EFGH?

    C. What is the length of each diagonal in ABCD?

    D. What is the length of each diagonal in EFGH?

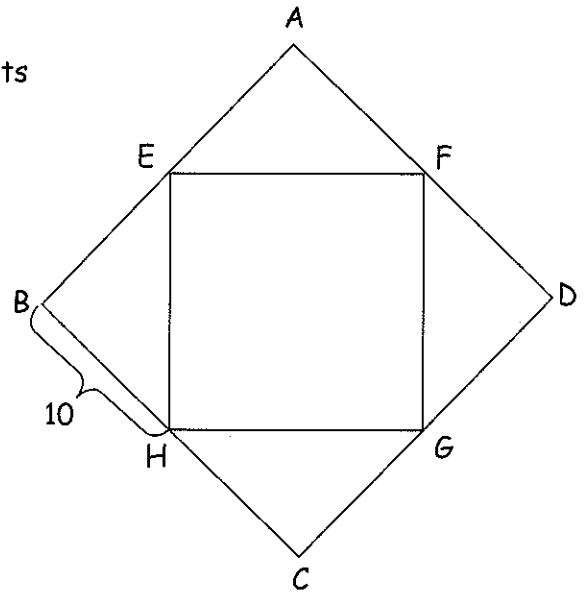For # 20-23, Determine whether the given side lengths will create a triangle. If they create a triangle, classify the triangle by its angles. Justify your answer. Show all work.

20. 6, 12, 6
    Triangle? Yes/No
    Right/Acute/Obtuse

21. 17, 8, 15
    Triangle? Yes/No
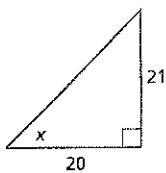   Right/Acute/Obtuse

22. 9, 13, 8
    Triangle? Yes/No
    Right/Acute/Obtuse

23. 12, 14, 16
    Triangle? Yes/No
    Right/Acute/Obtuse

24.

College Entrance Exam Sample   Which statement is true?

a. $x < 45°$ **b.** $x = 45°$ **c.** $x > 45°$
d. Not enough information to determine x

25. Find the length of the longest diagonal of this cube with each side length 10 cm long.