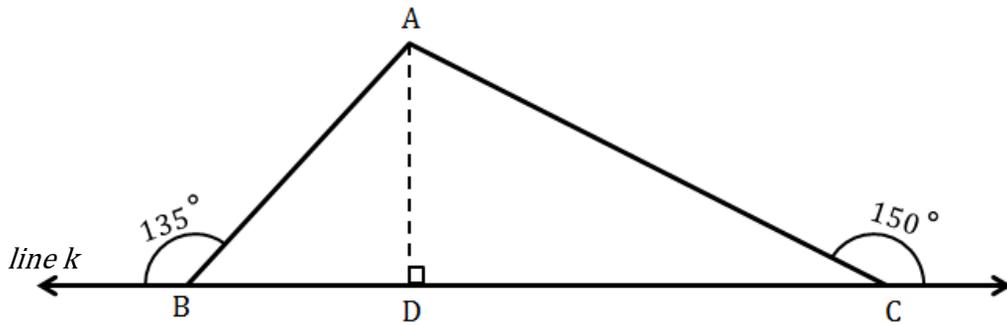1) In the figure below, points B, C, and D lie on *line k.*
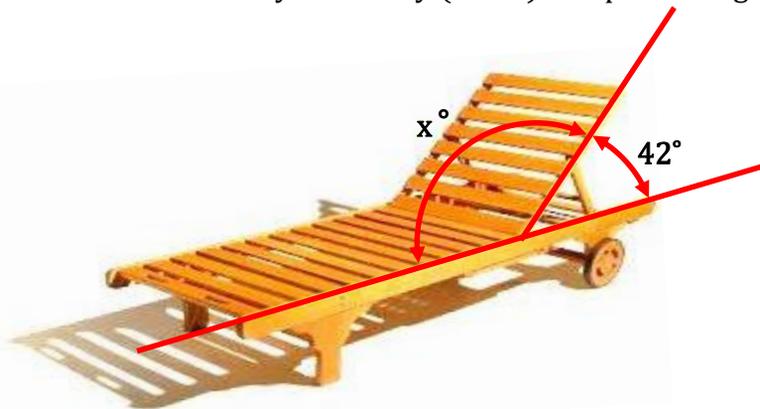

What is $m \angle$BAC ?
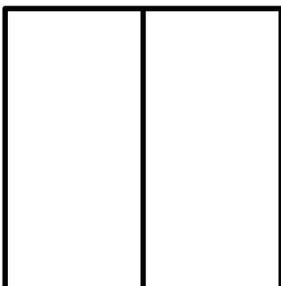
What is $m \angle$DAC ?

How would you classify this **pair** of angles: $\angle$DAC and $\angle$DCA

2) Find x. How would you classify (name) this pair of angles?

x °

42°

3) A square piece of paper is folded in half as shown and then cut into two rectangles along the fold. The perimeter of each of the two rectangles is 18 inches. What was the perimeter of the original square?

Formulas: Triangle Area = ½bh   Parallelogram Area = bh   Trapezoid area = ½(b_1+b_2)h
Circumference = πd   Circle Area = πr^2 π ≈ 3.14   for rough estimates: π ≈ 3

4) Draw examples of each of the following below:

    a) adjacent angles   b) vertical angles

    c) complementary angles   d) supplementary angles
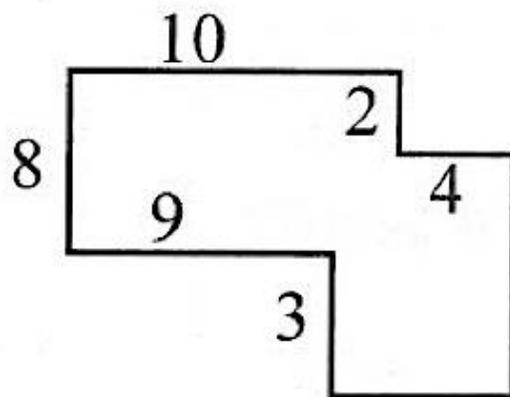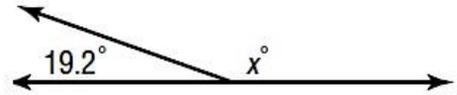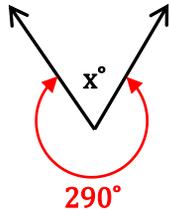
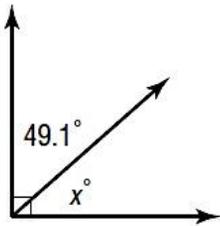   e) a reflex angle   f) an acute angle

5) What name could you give to all of the numbers below? Order them from least to greatest.

$$0.\overline{5} \qquad -\frac{13}{10} \qquad \frac{11}{21} \qquad -1.\overline{3} \qquad 0$$
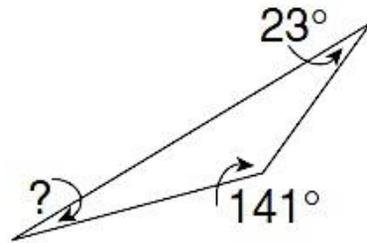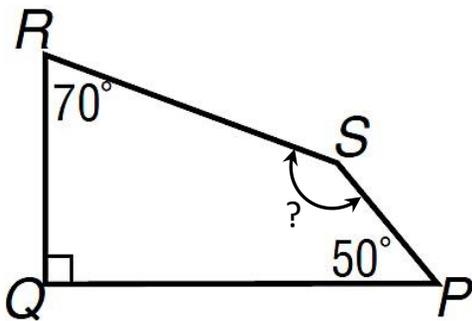
6) In the figure, all angles are right angles and all distances are in meters. What is the area of the figure?

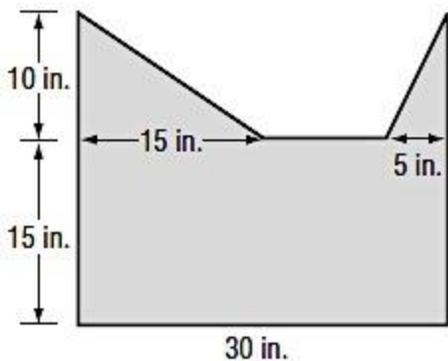**7)** Find the value of x in each of the figures below.

49.1°
x°

x°
290°

19.2°
x°

8) Find the unknown angle measurement in each of the polygons pictured below.
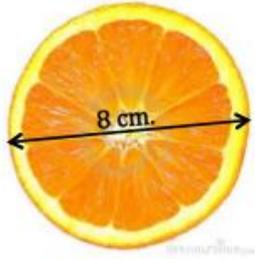
R
70°
S
?
50°
Q
P

23°
?
141°

9) A rectangle has a perimeter of 2 meters and a length of 70 cm. What is the area of the rectangle?
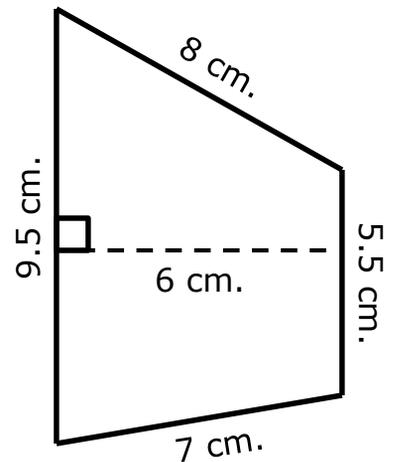
10) Calculate the shaded area below.

10 in.
15 in.
5 in.
15 in.
30 in.

11) Using π ≈ 3.14, find the area of each of the circles pictured below.


8 cm.

7 in.

12) A crop circle is pictured below. Estimate the circumference using π ≈ 3.14. What is the exact area of the crop circle?


← 100 yards →
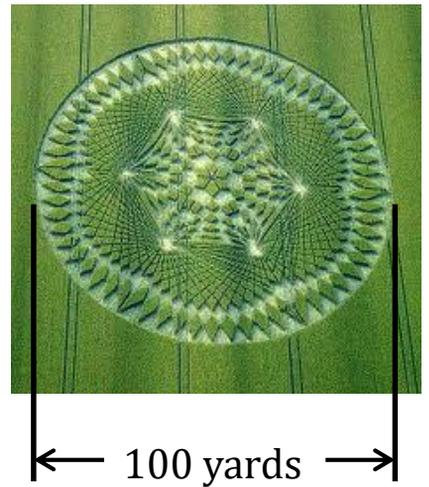
13) Find the perimeter and area of the trapezoid pictured.

8 cm.

9.5 cm.

6 cm.

5.5 cm.

7 cm.

14) Two congruent circles and two parallel lines intersect in a total of five points as shown. The inner segment of each line is 6 centimeters long. Using π ≈ 3.14, find the area of the shaded region.

6 cm

6 cm
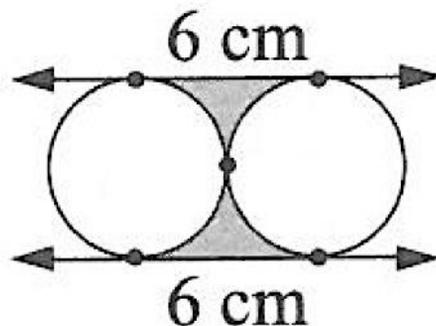
15) Rectangle ABCD is partitioned into five squares as shown. The length, in centimeters, of AM is a whole number. The area of rectangle ABCD is greater than 100 cm². Find the smallest possible area of rectangle ABCD.

A   B

M

D   C
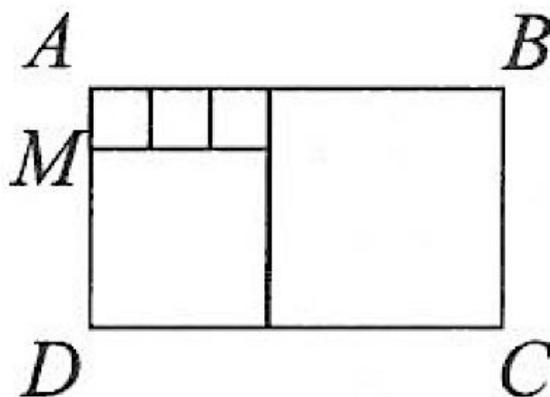
16) Karina and Samantha were given the task of designing their company logo. Their design must include at least one circle, one triangle, and one square. The picture below shows their company logo design.

They will cover the shaded portion of the logo with glitter. About how many square inches (use π ≈ 3.14) will they cover with glitter?

4 in.

8 in.