

Warm-Up:

Read and take notes over section 1.6
starting with page 42 through page 44.

We will share our knowledge!

polygon- 3 or more line segments (sides
each side intersect only 2 other sides at the endpoint
Polygons are named by listing the vertices in order

convex -

concave -

Number of sides	Type of polygon
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon

Number of sides	Type of polygon
8	Octagon
9	Nonagon
10	Decagon
12	Dodecagon
n	n -gon

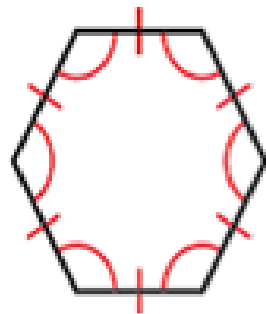
equiangular -

equilateral -

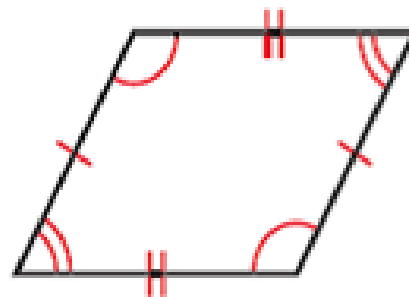
regular - *convex, equilateral, equiangular.*

Classify the polygon by the number of sides. Tell whether the polygon is equilateral, equiangular, or regular. Explain your reasoning.

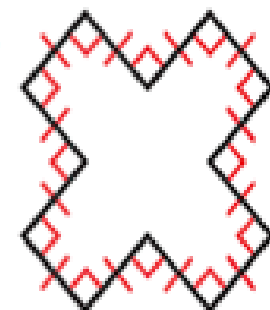
a.



b.



c.



The expressions $4x + 2$ and $6x - 4$ represent the side lengths of a regular triangle. Find the length of a side.

$$4x + 2 = 6x - 4$$

$$2 = 2x - 4$$

$$6 = 2x$$

$$3 = x$$

$$4 \cdot 3 + 2$$

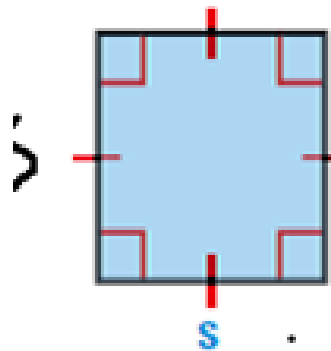
$$14$$

$$6 \cdot 3 - 4$$

$$14$$

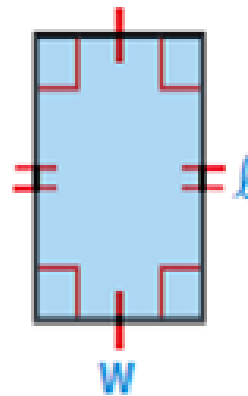
Formulas for Perimeter P , Area A , and Circumference C

Square $P = s + s + s + s$
 $= 4s$



$$A = l \cdot w$$
$$= s^2$$

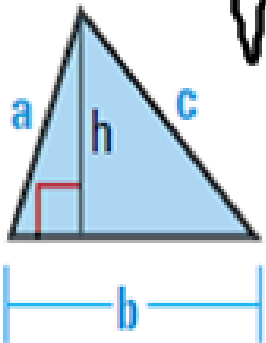
Rectangle



$$P = l \cdot 2 + w \cdot 2$$

$$A = b \cdot h = l \cdot w$$

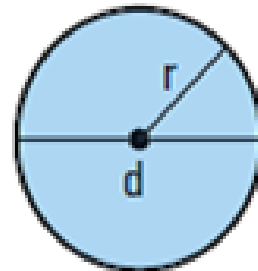
Triangle



$$P = a + b + c$$

$$A = b \cdot h \cdot \frac{1}{2}$$

Circle



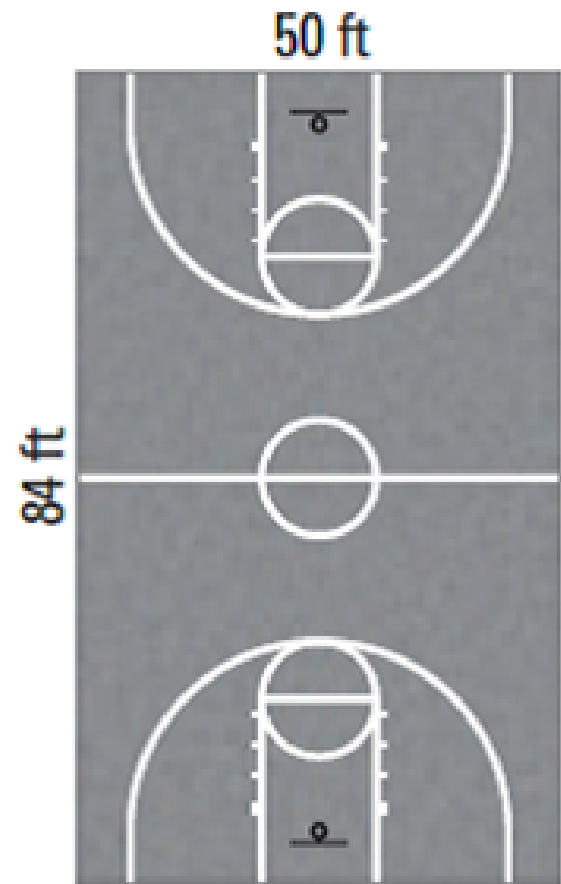
$$C = 2\pi r = \pi d$$

$$A = \pi r^2$$

BASKETBALL Find the perimeter and area of the rectangular basketball court shown.

$$\begin{aligned} P &= 50 \cdot 2 + 84 \cdot 2 \\ &= 268 \text{ ft} \end{aligned}$$

$$\begin{aligned} A &= l \cdot w \\ &= 84 \cdot 50 \\ &= 4200 \text{ ft}^2 \end{aligned}$$



Find the approximate circumference and area of a circular window with an 18 inch diameter.

$$\begin{aligned}C &= \pi d \\ &= \pi \cdot 18 \\ &= 56.52 \text{ in.}\end{aligned}$$

$$\begin{aligned}A &= \pi r^2 \text{ or } r^2 \pi \\ &= 3.14 \cdot 9^2 \\ &= 3.14 \cdot 81 \\ &= 254.34 \text{ in}^2\end{aligned}$$

1. Triangle QRS has vertices $Q(1, 2)$, $R(4, 6)$, and $S(5, 2)$. What is the approximate perimeter of triangle QRS ?

2. How would you find the area?

$$QR = \sqrt{(4-1)^2 + (6-2)^2}$$

$$= \sqrt{3^2 + 4^2}$$

$$= \sqrt{9+16}$$

$$= \sqrt{25}$$

$$QR = 5$$

$$SQ = |x_2 - x_1|$$

$$= |5 - 1|$$

$$= 4$$

$$RS = \sqrt{(5-4)^2 + (2-6)^2}$$

$$= \sqrt{1^2 + (-4)^2}$$

$$= \sqrt{1+16}$$

$$= \sqrt{17}$$

$$\approx 4.12$$

$$\text{Perimeter} = 5 + 4 + 4.12 = 13.12$$

The base of a triangle is 28 meters.
Its area is 308 square meters.
Find the height of the triangle.

$$A = b \cdot h \cdot \frac{1}{2}$$

$$308 = 28 \cdot h \cdot \frac{1}{2}$$

$$308 = 14h$$

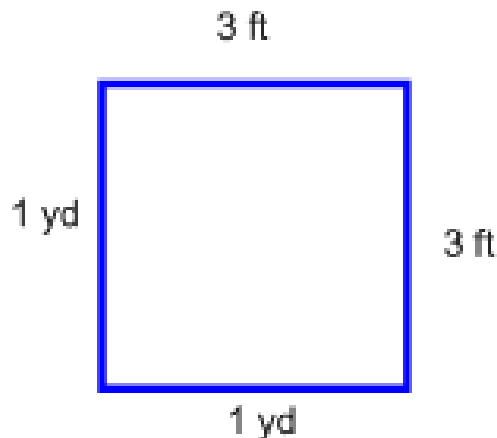
$$22\text{m} = h$$

Jake can mow 600 square feet of grass in 10 minutes.
 About how long will it take him to mow the grass on a
 rectangular field that is 50 yards wide and 100 yards
 long?

$$\begin{aligned}
 A &= l \cdot w \\
 &= 50 \text{ yds} \cdot 100 \text{ yds} \\
 &= 5000 \text{ yds}^2
 \end{aligned}$$

$$\frac{5000 \text{ yd}^2}{66.7 \text{ yd}^2} \cdot 10 \text{ min}$$

$$750 \text{ min.}$$



$$\frac{1 \text{ sq. yd.}}{9 \text{ sq. ft.}} \times \frac{600 \text{ sq ft}}{10 \text{ min}} = \frac{66.7 \text{ sq yd}}{10 \text{ min}}$$



Homework:

pp 44-46

#'s 2-12 E, 16-26 E, 34, 36

pp 52-54

#'s 2-16 E, 20-28 E, 41 (must show work)

