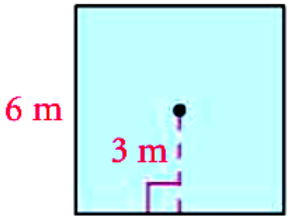
Name:_____Per:___ **10-5 Trigonometry and Area**

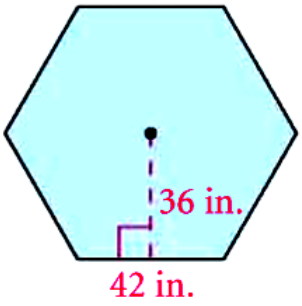
Warm-up

Find the area of each regular polygon.

1.



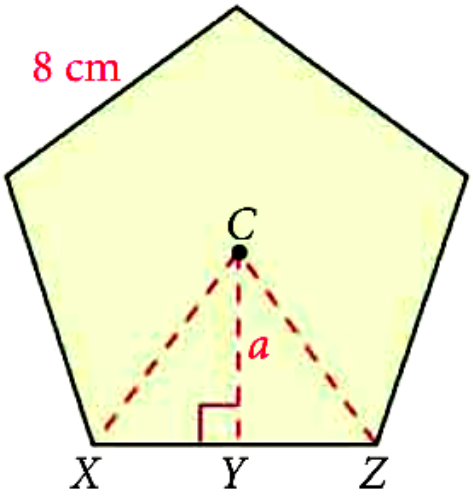
2.



Notes

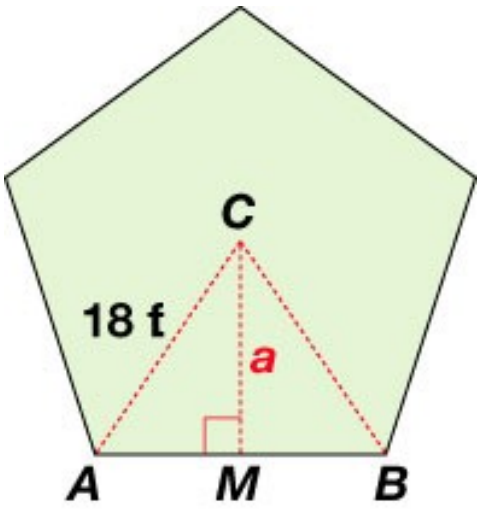
Find the area of a regular pentagon with 8-cm sides.

$A = \frac{1}{2}ap$



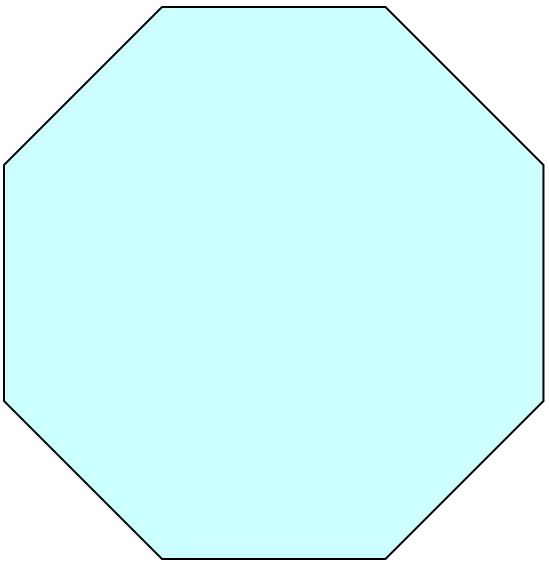
Examples:

Find the area



Examples:

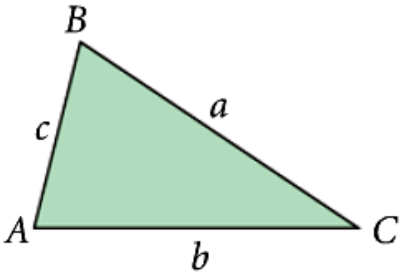
Find the area of a regular octagon with a perimeter of 80 in.



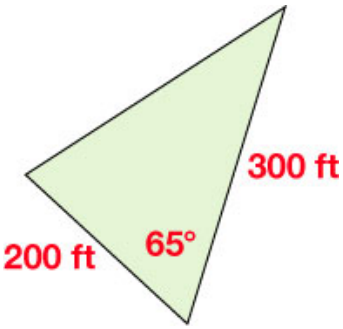
Notes

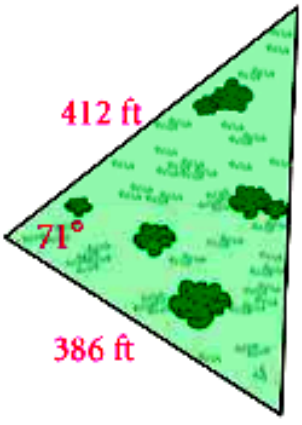
Theorem 10-8 **Area of a Triangle Given SAS**

$$\text{Area of } \triangle ABC = \tfrac{1}{2}bc(\sin A)$$



Examples: **Find the area of the triangle**

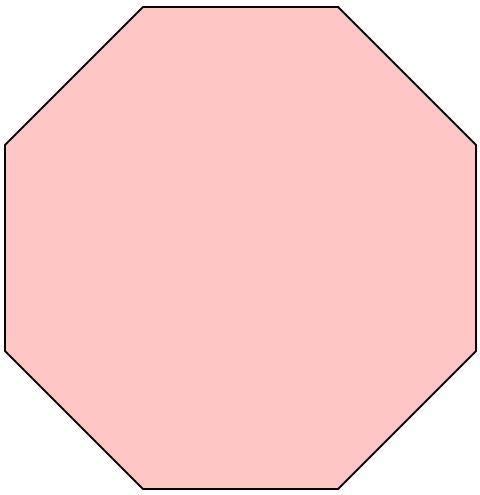




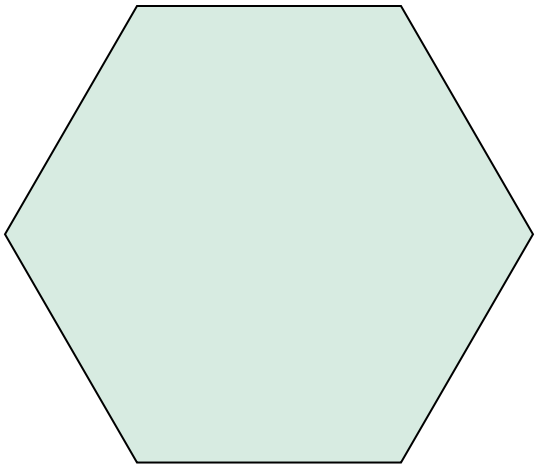
Assignment:

Find the area of each regular polygon. Give answers to the nearest tenth.

1. octagon with side length 6 cm



2. hexagon with perimeter 60 m



3. $PQRST$ is a regular pentagon with center O and radius 10 in.

a. Find $m\angle POQ$.

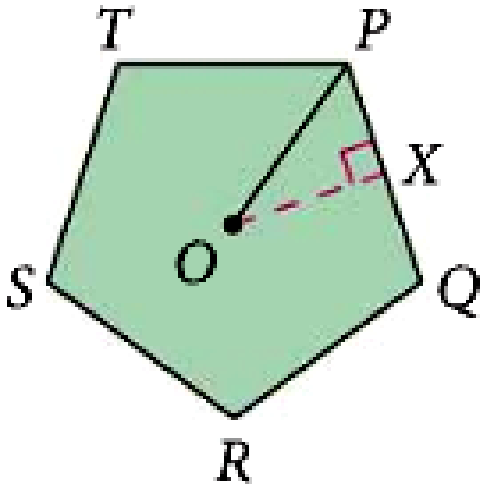
b. Find $m\angle POX$.

c. Find OX.

d. Find PQ.

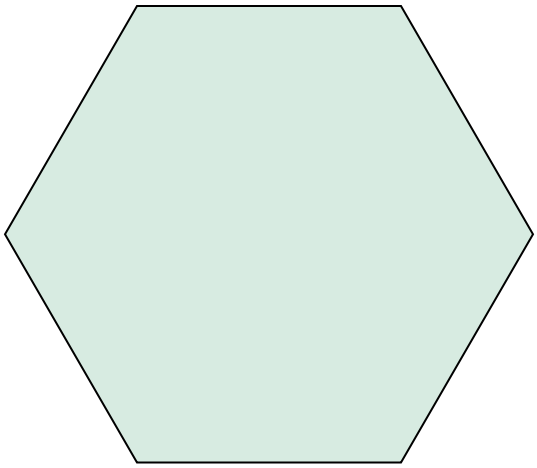
e. Find the perimeter.

f. Find the area.



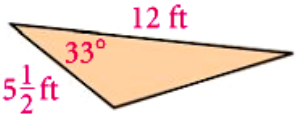
Find the area of each regular polygon. Give answers to the nearest tenth.

4. hexagon with radius **12** ft

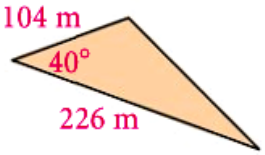


Find the area of each triangle. Give answers to the nearest tenth.

5.



6.



7.