LEVEL: EMERGING
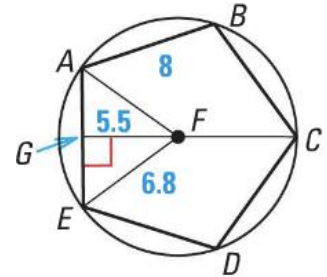
VOCABULARY

Directions: Use the diagram.

1. Identify the *center* of the regular polygon *ABCD.*

2. Identify a *central angle* of the polygon and what is its measure?

3. What is the *radius* of the polygon?

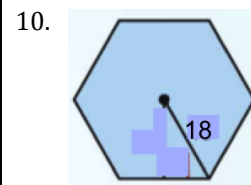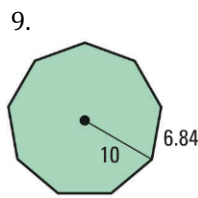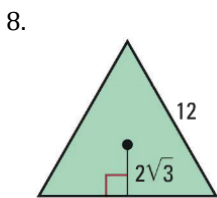4. What is the apothem?

MEASURE OF CENTRAL ANGLES

Directions: Find the measure of a central angle of a regular polygon with the given number of sides. Round answers to the nearest tenth of a degree.

5.	10 sides	6.	18 sides	7.	24 sides

LEVEL: PROFICIENT

FINDING AREA

Directions: Find the area of the regular polygon.
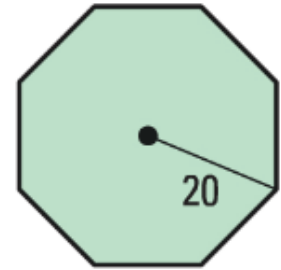
8.

9.

10.

ERROR ANALYSIS

Directions: *Describe* and correct the error in finding the area of the regular hexagon.

11.

$$\sqrt{15^2 - 13^2} \approx 7.5$$

$$A = \frac{1}{2}a \cdot ns$$

$$A = \frac{1}{2}(13)(6)(7.5) = 292.5$$

PERIMETER AND AREA
Directions: Find the perimeter and area of the regular polygon

12.

POLYGONS IN CIRCLES
Directions: Find the area of the shaded region

13.

PROBLEM SOLVING

14. Basaltic columns are geological formations that result from rapidly cooling lava. The Giant's Causeway in Ireland, pictured below, contains many hexagonal columns. Suppose that on of the columns is in the shape of a regular hexagon with radius 8 inches.

a) What is the apothem of the column?

b) Find the perimeter and the area of the column. Round to the nearest square inch.