

Name _____
Date _____ pd _____

Unit 20: Worksheet #1
Regular Polygons

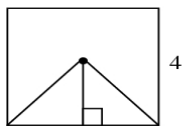
I. Find the area of each regular polygon. Round your answers to the nearest tenth.

- _____ 1. A pentagon with an apothem 2.8 feet and a perimeter of 20.34 feet
- _____ 2. An octagon with an apothem 4.8 centimeters and a side 4 centimeters
- _____ 3. A square with a side 24 inches and an apothem 12 inches
- _____ 4. A hexagon with a side 23.1 meters and an apothem 20.0 meters
- _____ 5. A pentagon with an apothem 316.6 millimeters and a side 460 millimeters

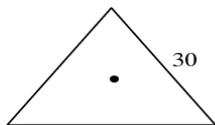
II. Complete these steps for the following problems, then find the missing information

- a. For each regular polygon, draw one central \angle and find its measure using $360^\circ \div (\# \text{ of sides})$.
- b. Draw the apothem (a) bisecting the central \angle .
- c. Write the measure of all the \angle 's in the right Δ formed.
- d. Now you can find the sides s, radius r, apothem a, perimeter P, and/or area A of the regular polygon.

6. $s = 4, r = \underline{\hspace{2cm}}, a = \underline{\hspace{2cm}}, P = \underline{\hspace{2cm}}, A = \underline{\hspace{2cm}}$



7. $s = 30, r = \underline{\hspace{2cm}}, a = \underline{\hspace{2cm}}, P = \underline{\hspace{2cm}}, A = \underline{\hspace{2cm}}$



8. $s = 18, r = \underline{\hspace{2cm}}, a = \underline{\hspace{2cm}}, P = \underline{\hspace{2cm}}, A = \underline{\hspace{2cm}}$

