**Unit 8 HW Day 3 8-49, 50, 55, 56, 60**

### ****Parts of a Regular Polygon****

### The **center** of a regular polygon is the center of the smallest circle that completely encloses the http://textbooks.cpm.org/images/gc/chap08/CPM_Geometry_1990.jpg

polygon.

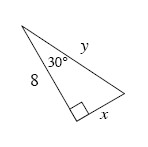
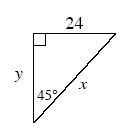
A line segment that connects the center of a regular polygon with a vertex is called a **radius**.

An **apothem** is the perpendicular line segment from the center of a regular polygon to a side.

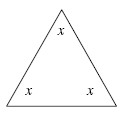
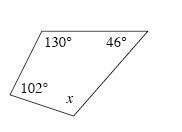
**8-49.** The exterior angle of a regular polygon is 20°. [Hints](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_49.html)⇔[Help](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_49m.html)

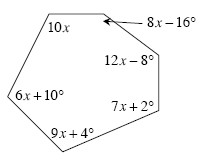
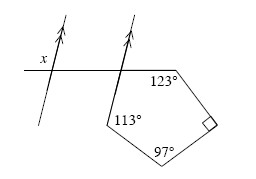
* 1. What is the measure of an interior angle of this polygon? Show how you know.
  2. How many sides does this polygon have? Show all work.

**8-50.** Find the exact values of *x* and *y* in each diagram below.

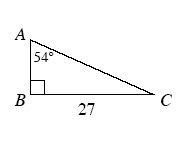
**8-55.** Solve for *x* in each diagram below. [Hints](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_55.html)⇔[Help](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_55m.html)

1.  b.

c. d. 

**8-56.** What is another (more descriptive) name for each polygon described below? [Hints](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_56.html)⇔[Help](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_56m.html)

1. A regular polygon with an exterior angle measuring 120°.
2. A quadrilateral with four equal angles.
3. A polygon with an interior angle sum of 1260°.
4. A quadrilateral with perpendicular diagonals.

**8-60.** **Multiple Choice:** Approximate the length of http://textbooks.cpm.org/images/gc/chap08/AB.gif. [Hints](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_60.html)⇔[Help](http://www.cpm.org/students/homework/GC_Problems/GC_Ch8_Answers/GC8.1.5/GC_8_60m.html)  


|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. 15.87 | b. 21.84 | c. 37.16 | d. 19.62 | None of these |