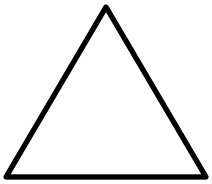
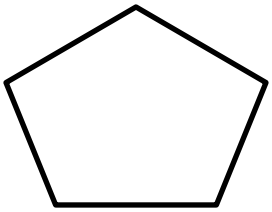
Geometry Name _____

Section 8.2: Angles in Polygons Date _____

Interior Angles vs. Exterior Angles





Polygon Interior Angles Theorem

The sum of the measures of the interior angles of a convex polygon with n sides is

_____.

_____ + _____ + _____+ … + _____ = _____

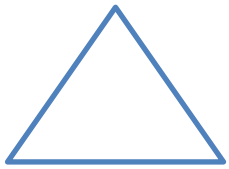
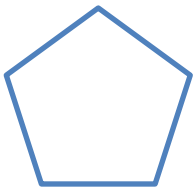
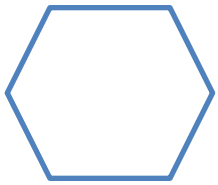
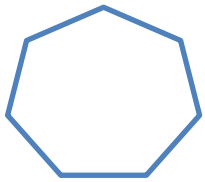
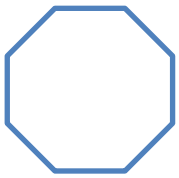
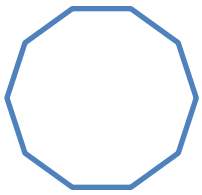
Polygon Exterior Angles Theorem

The sum of the measures of the exterior angles of a convex polygon with n sides is

_____.

_____ + _____ + _____+ … + _____ = _____

Geometry Exploration

	Name and Number of Sides	**Number of Vertices**	**Number of Triangles**	**Sum of measures of interior angles**
	Triangle 3 sides	3 vertices	1 triangle	1 * 180 = 180°
				
				
				
				
				
				

Geometry

Name _____

Section 8.2 Practice

Date _____

Formulas for Finding Angles in Polygons:

Sum of Interior Angles	**Each Interior Angle**	**Sum of Exterior Angles**	**Each Exterior Angle**

Use the formulas to find the indicated values.

1. A regular polygon has 7 sides.

Name: _____

Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

2. A regular polygon has 10 sides

Name: _____

Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

3. A regular polygon has 8 sides.

Name: _____

Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

4. A regular polygon has an int. angle sum of 1440.

Name: _____

Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

5. A regular polygon has each ext. angle of 60.

Name: _____

Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

6. A regular polygon has 5 sides

Name: _____

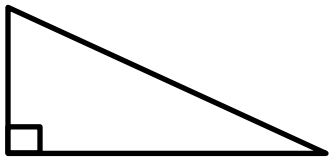
Sum of Interior Angles: _____

Each Interior Angle: _____

Sum of Exterior Angles: _____

Each Exterior Angle: _____

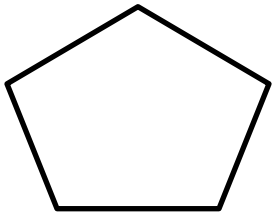
Find the missing angle.

1. 

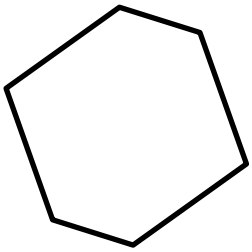
_____

2. 

_____

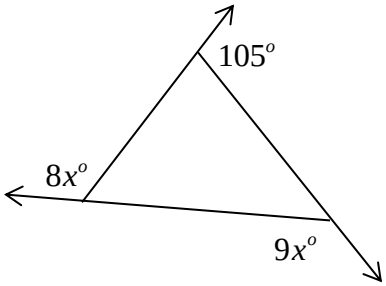
3. 

_____

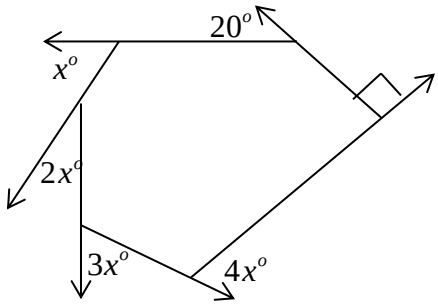
4. 

_____

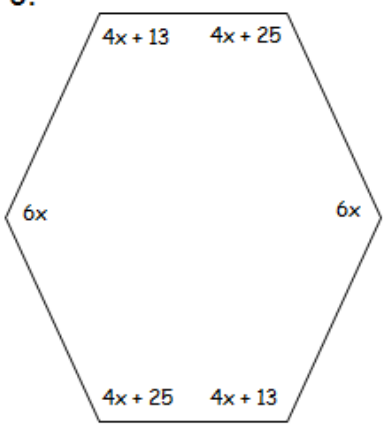
Find x.

1. 

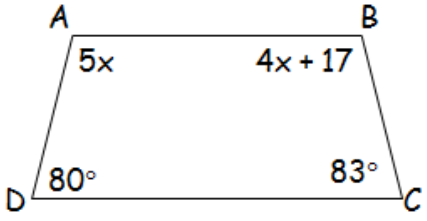
x = _____

2. 

x = _____

3. 

x = _____

4. 

x = _____