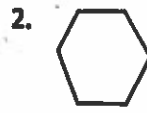
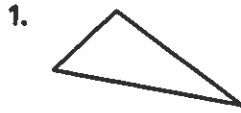


Practice 7-5

Angles and Polygons

Classify each polygon by its number of sides.



4. a polygon with 8 sides

5. a polygon with 10 sides

6. Find the measure of each angle of a regular hexagon.

7. The measures of four angles of a pentagon are 143° , 118° , 56° , and 97° . Find the measure of the missing angle.

8. Four of the angles of a hexagon measure 53° , 126° , 89° , and 117° . What is the sum of the measures of the other two angles?

9. Four of the angles of a heptagon measure 109° , 158° , 117° , and 89° . What is the sum of the measures of the other three angles?

10. Complete the chart for the total number of diagonals from all vertices in each polygon. The first three have been done for you.

Polygon	Number of Sides	Number of Diagonals
triangle	3	0
rectangle	4	2
pentagon	5	5
hexagon		
heptagon		
octagon		
nonagon		
decagon		

11. From the table you completed in Exercise 10, what pattern do you see? Explain.

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Puzzle 7-5

Angles and Polygons

The table below provides information about the number of sides and angles in different polygons. Each polygon is missing one angle measurement. Fill in the missing angle for each polygon, then use those values to help navigate through the maze at the bottom of the page.

Number of Angles in Polygon	Angle Measurements
3	60.5°, 75.3°, _____
4	80.1°, 79.5°, 100°, _____
5	105.6°, 98.7°, 95.5°, 107.2°, _____
6	140, 150, 150, 140, 70, _____
7	130°, 140°, 120°, 120°, 140°, 130°, _____
8	120.3°, 135°, 150°, 120°, 150°, 134.7°, 120°, _____
9	150°, 140.5°, 135°, 130°, 139.5°, 145°, 140°, 150°, _____
10	160.8°, 155°, 105°, 145°, 140°, 145°, 150°, 154.2°, 160°, _____

START		54.2°	135°	138°	80°	125°
		46.8°	67°	136°	155°	133.3°
56.8°	44.2°	101.4°	134.7°	69.7°	126°	137.3°
100.6°	100.4°	133°	70°	110°	135°	80°
1366°	134°	63.3°	120°	140°	142°	72°
100.2°	103.7°	100°	150°	130°	125°	70°
105°	115°	160°	148°	75°	END	
124.6°	116°	35°	149°	65°		