LESSON 8-8

Practice A

Angles in Polygons

Find the unknown angle measure in each polygon. Choose the letter for the best answer.

1.



Ⓐ 45° **C** 90° **B** 55° **D** 135°

2.



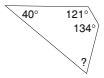
F 40° **H** 60° Ⓖ 50° **J** 70°

3.



A 313° Ⓒ 113° **B** 170° **D** 27°

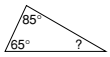
4.



F 46° **H** 140° Ⓖ 65° **J** 245°

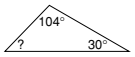
Find the unknown angle measure in each polygon.

5.



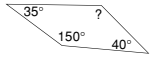
30°

6.



46°

7.



135°

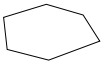
Divide each polygon into triangles to find the sum of its interior angles.

8.



360°

9.



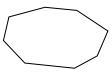
720°

10.



540°

11.



1,080°

12.



360°

13.



900°

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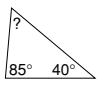
LESSON 8-8

Practice B

Angles in Polygons

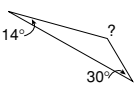
Find the unknown angle measure in each polygon.

1.



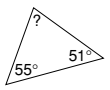
55°

2.



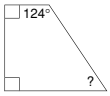
136°

3.



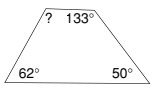
74°

4.



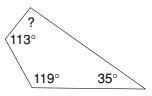
56°

5.



115°

6.



93°

Divide each polygon into triangles to find the sum of its interior angles.

7.



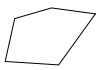
1,080°

8.



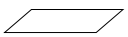
360°

9.



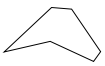
540°

10.



360°

11.



720°

12.



1,440°

13. A stop sign has the shape of a regular octagon. What is the sum of the interior angles of a stop sign?

1,080°

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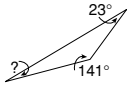
LESSON 8-8

Practice C

Angles in Polygons

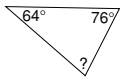
Find the unknown angle measure in each polygon.

1.



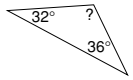
16°

2.



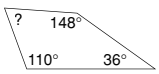
40°

3.



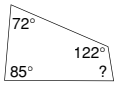
112°

4.



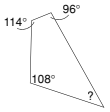
66°

5.



81°

6.



42°

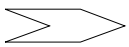
Divide each polygon into triangles to find the sum of its interior angles.

7.



1,440°

8.



720°

9.



1,620°

Find the measure of the third angle in each triangle, given two angle measures. Then classify the triangle.

10. 99°, 34°

47°; obtuse

11. 12°, 90°

78°; right

12. 44°, 66°

70°; acute

13. Mitsue has 3 planks that are each 4 feet long. If she uses the planks to form a triangular flower bed, what will be the measure of each angle in the triangle?

60°

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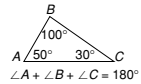
LESSON 8-8

Reteach

Angles in Polygons

The sum of the measures of the three angles of any triangle is 180°.

To find the missing angle, subtract the sum of the two given angles from 180°.



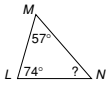
$\angle A + \angle B + \angle C = 180°$
$50° + 100° + 30° = 180°$

Find the measure of $\angle N$ in triangle *LMN*.

1. $\angle N =$ 180° $- (74° + 57°)$

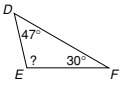
2. $\angle N =$ 180° $- 131°$

3. $\angle N =$ 49°



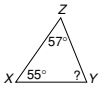
Find the measure of the unknown angle.

4.



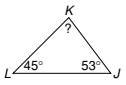
103°

5.



68°

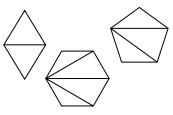
6.



82°

Use the figures to complete Exercises 7–10.

	Figure	Number of Sides	Number of Triangles
7.	Quadrilateral	4	2
8.	Pentagon	5	3
9.	Hexagon	6	4



10. The number of triangles is always two less than the number of sides of the figure.

Find the sum of the interior angles.

11.

180° • 2 = 360°

12.

180° • 4 = 720°

13.

180° • 3 = 540°

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