Geometry 8.1-8.3 Worksheet

1. Find the measure of the missing angle.

2. Find the value of $x$.

3. Find $x$ and $y$.

4. Find the sum of the measures of the interior angles in the figure.

5. A regular pentagon has five congruent interior angles. What is the measure of each angle?
6. What is the measure of each interior angle in a regular octagon?

7. Find the number of sides of a convex polygon if the measures of its interior angles have a sum of 2880°.

8. Find the number of sides of a regular polygon with each interior angle equal to 171°.

9. What is the measure of each exterior angle in a regular pentagon?

Open-ended:

10. Using the drawing and the triangle sum theorem, explain why the sum of the measures of the interior angles of a pentagon is 540°.

11. 16-gon

12. 32-gon

Find each unknown angle measure.

13. 

14. 

15. Consider an octagonal stop sign.
   a. Find the sum of the interior angles of a stop sign.
   b. Find the measure of one of the interior angles of a stop sign.
   c. Find the measure of an exterior angle of a stop sign.
16. Refer to the figure below.

![Parallelogram UVWX]

Given: \( UVWX \) is a parallelogram, \( m\angle WXV = 17^\circ \), \( m\angle WVX = 29^\circ \), \( XW = 41 \), \( UX = 24 \), \( UY = 15 \)

a. Find \( m\angle WVU \).
b. Find \( WV \).
c. Find \( m\angle XUV \).
d. Find \( UW \).

17. Use the figure below.

![Parallelogram FGHJ]

Given: \( FGHJ \) is a parallelogram, \( m\angle JHG = 68^\circ \), \( JH = 34 \), \( GH = 19 \)

a. Find \( m\angle FJH \).
b. Find \( JF \).
c. Find \( m\angle GFJ \).
d. Find \( FG \).

**True or False:**

18. If a quadrilateral is a parallelogram, then consecutive angles are complementary.

**Use the diagram to find the given length.**

19. \( AC \)

20. \( BD \)