

Honors Geometry

Worksheet 8.1

Name _____

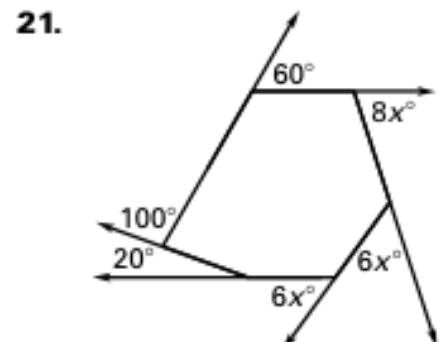
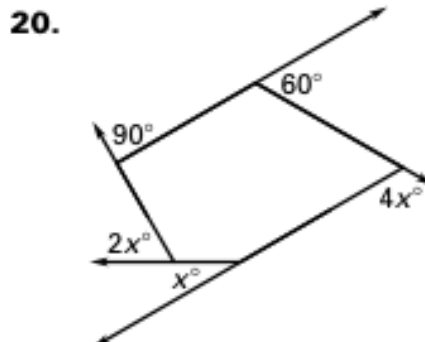
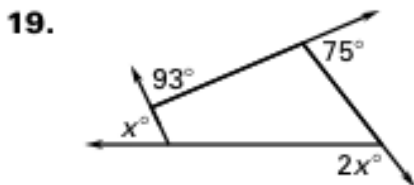
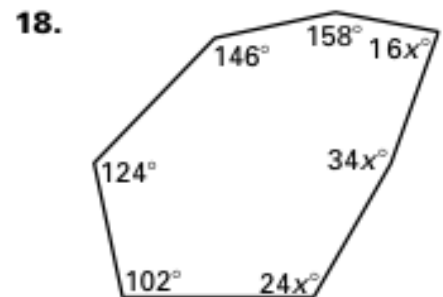
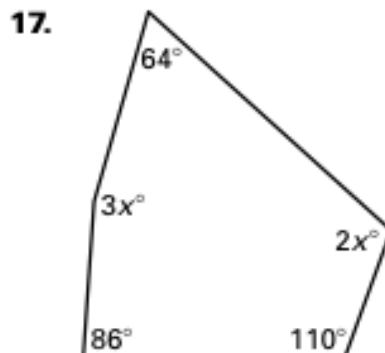
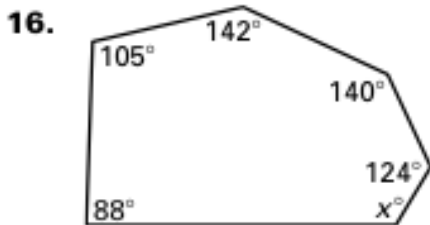
Find the sum of the measures of the interior angles of the indicated convex polygon.

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| 1. Hexagon | 2. Dodecagon | 3. 11-gon |
| 4. 15-gon | 5. 20-gon | 6. 40-gon |

The sum of the measures of the interior angles of a convex polygon is given. Classify the polygon by the number of sides.

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| 7. 180° | 8. 540° | 9. 900° |
| 10. 1800° | 11. 2520° | 12. 3960° |
| 13. 5040° | 14. 5940° | 15. 8640° |

Find the value of x .



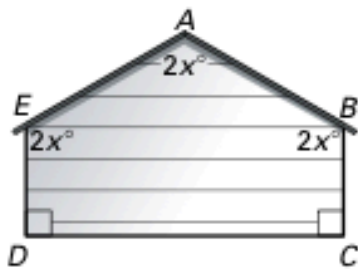
22. What is the measure of each exterior angle of a regular nonagon?
23. The measures of the exterior angles of a convex quadrilateral are 90° , $10x^\circ$, $5x^\circ$, and 45° . What is the measure of the largest exterior angle?
24. The measures of the interior angles of a convex octagon are $45x^\circ$, $40x^\circ$, 155° , 120° , 155° , $38x^\circ$, 158° , and $41x^\circ$. What is the measure of the smallest interior angle?

Find the measures of an interior angle and an exterior angle of the indicated polygon.

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| 25. Regular triangle | 26. Regular octagon | 27. Regular 16-gon |
| 28. Regular 45-gon | 29. Regular 60-gon | 30. Regular 100-gon |

In Exercises 31–34, find the value of n for each regular n -gon described.

31. Each interior angle of the regular n -gon has a measure of 140° .
32. Each interior angle of the regular n -gon has a measure of 175.2° .
33. Each exterior angle of the regular n -gon has a measure of 45° .
34. Each exterior angle of the regular n -gon has a measure of 3° .
35. **Storage Shed** The side view of a storage shed is shown below. Find the value of x . Then determine the measure of each angle.



36. **Tents** The front view of a camping tent is shown below. Find the value of x . Then determine the measure of each angle.

