

# 10.4 & 10.5 • Interior & Exterior Angles of Polygons

Find the sum of the measures of the interior angles of a polygon with...

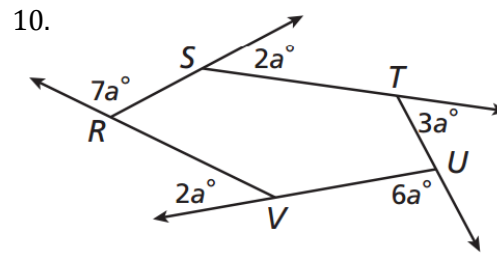
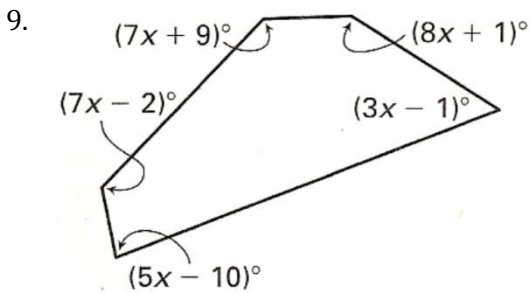
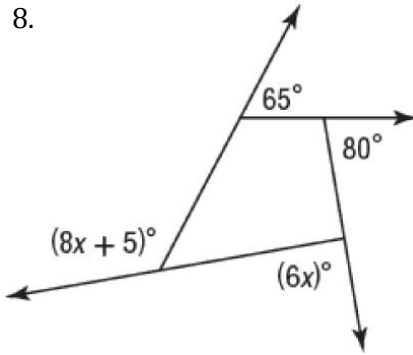
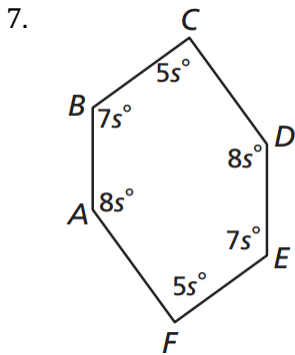
1. 9 sides
2. 25 sides

Find the sum of the measures of the exterior angles, one per vertex, of a polygon with...

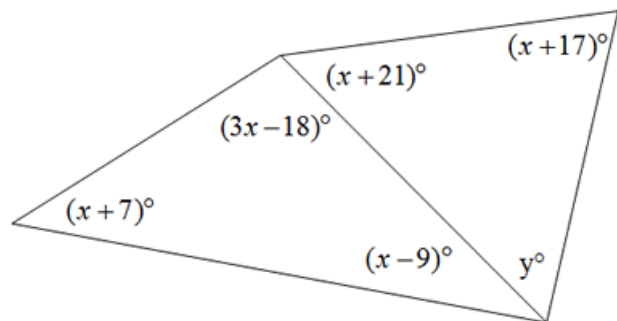
3. 8 sides
4. 12 sides
5. 24 sides

6. How many sides does a polygon have if the sum of the measures of its interior angles is 1980?

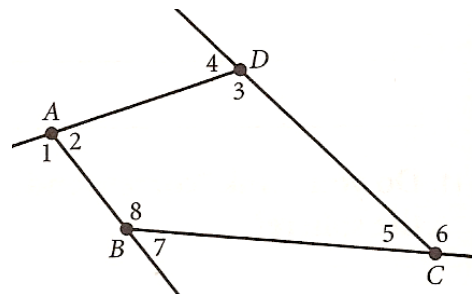
Set up and solve an equation to find the value of the variable.



11. Determine the value of the variables:



12. Given:  $m\angle 1 = 5x + 11$ ,  $m\angle 4 = 3x + 1$ ,  $m\angle 6 = 8x - 19$ , and  $m\angle 7 = 3x - 13$   
 Find:  $x$ ,  $m\angle 2$ , &  $m\angle 5$



Determine the measure of one interior angle and one exterior angle of a regular polygons with...

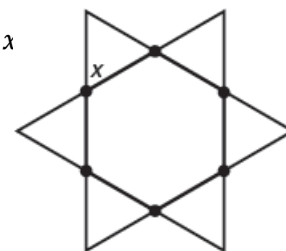
13. 15 sides

14. 48 sides

15. Suppose that one of the measures of an interior angle of a regular polygon is  $157.5^\circ$ . How many sides does the polygon have?

16. The measure of each exterior angle of a regular polygon is  $24^\circ$ . Determine the number of sides of the polygon.

17. If the figure outlined by the 6 points is a regular hexagon, what is the value of  $x$



18. Use everything you know about angles to find the value of the variables.

