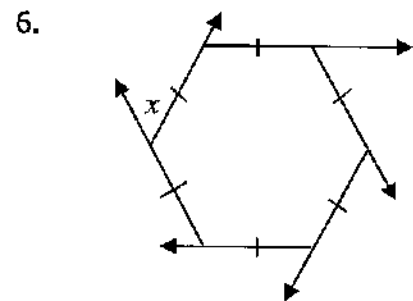
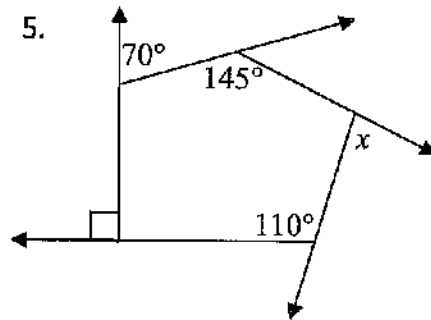
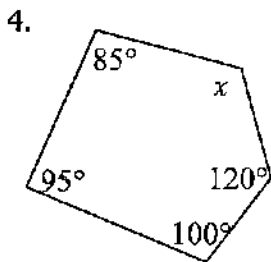
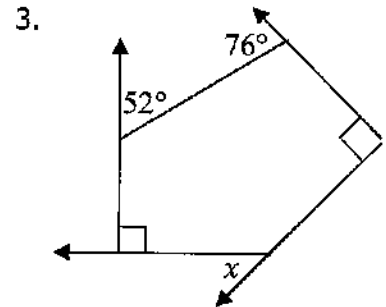
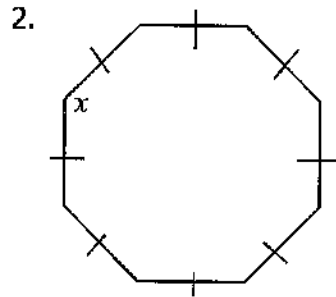
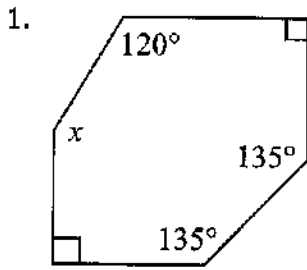


Name \_\_\_\_\_

**Worksheet #6.1 - Finding Angle Measures in a Polygon**

In Exercises #1-6, find the value of  $x$ :



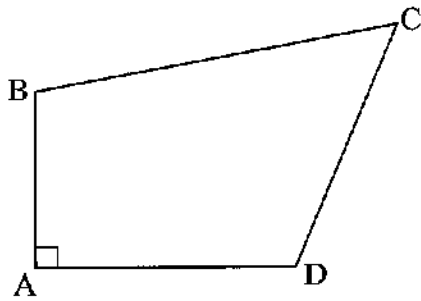
7. What is the sum of the interior angles of an eleven sided polygon?

8. If the sum of the interior angles of a polygon is  $5040^\circ$ , then the polygon has how many sides?

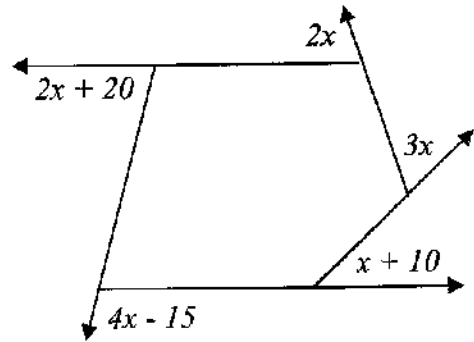
9. The measure of each interior angle of a regular polygon is  $144^\circ$ . How many sides does the polygon have?

10. How many degrees are there in each interior angle of a regular pentagon?

11. In quadrilateral  $ABCD$ ,  $m\angle A = 90^\circ$ ,  $m\angle C = 50^\circ$ , and  $m\angle B = m\angle D$ . Find  $m\angle B$ .

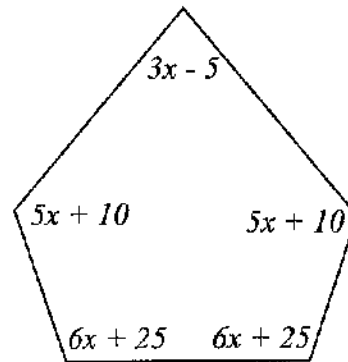


12. Find the value of  $x$ .



13. In a given regular polygon, the ratio of the interior angle to the exterior angle is 7:2. How many sides are in this polygon?

14. Find the value for  $x$  and the measure of each interior angle.



15. A convex heptagon has interior angles that measure  $120^\circ$ ,  $115^\circ$ ,  $135^\circ$ ,  $95^\circ$ ,  $155^\circ$ , and  $125^\circ$ . What is the measure of the seventh interior angle?

16. Is it possible to have a polygon whose sum of the interior angles is  $500^\circ$ ? Explain your answer.