

Assignment

Write

Explain how to bisect an angle using patty paper and using a compass and straightedge.

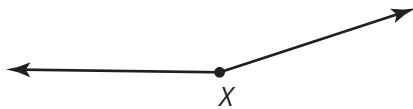
Remember

- An angle bisector is a line, line segment, or ray that is drawn through the vertex of an angle and divides the angle into two congruent angles.
- All regular polygons can be inscribed in a circle. Some regular polygons, such as an equilateral triangle, square, hexagon and octagon, can be inscribed in a circle using a compass and straightedge.

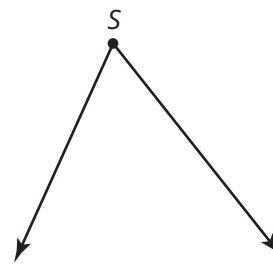
Practice

1. Duplicate each angle using construction tools.

a.



b.

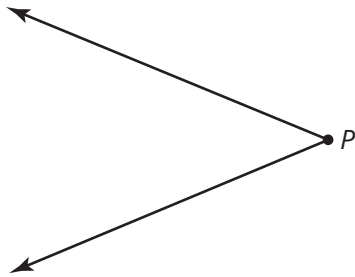


2. Inscribe a hexagon inside a circle. Explain your process.

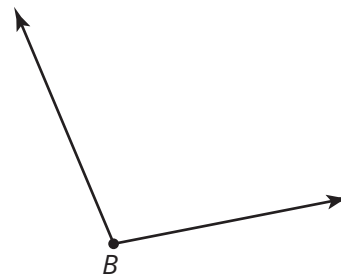
3. Construct a square inscribed in a circle. Then, explain how you know the figure is a square, and how you know it is inscribed.

4. Construct the angle bisector of each given angle.

a.



b.



5. Construct a 15° angle using only a compass and straightedge. Summarize your steps.

6. Inscribe an equilateral triangle inside a circle. Explain your process.

Stretch

Determine two different constructions you could use to construct an angle with a measure of 45° using only a compass and straightedge. Summarize the processes and show both constructions.

Review

1. Identify the quadrilaterals that match each description.
 - a. opposite sides are parallel
 - b. at least one pair of opposite angles is congruent
2. Write an equation for a line that is perpendicular to the given line.
 - a. $y = 4x - 1$
 - b. $y = x + 2$
3. Write an equation for a line that is parallel to the given line.
 - a. $x = 3$
 - b. $y = -\frac{1}{2}x - \frac{5}{2}$