Assignment

Write

Describe in your own words how to duplicate an angle.

Remember

By using a chord length that is congruent to the measure of the radius of the circle, the chord can be duplicated around the circumference of the circle to create an inscribed hexagon. If radii are drawn to the vertices of the hexagon, six equilateral triangles are formed.

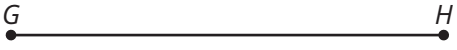
Practice

1. Duplicate each line segment using construction tools.

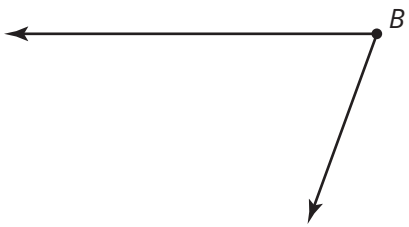
a. 

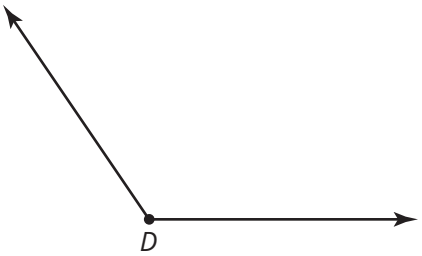
b. 

c. 

d. 

2. Duplicate each angle using construction tools.

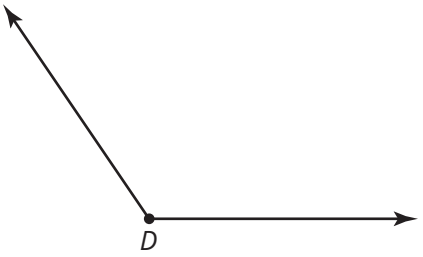
a. 

b. 

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

Stretch

1. An angle bisector is a ray from a vertex of an angle into the interior of the angle that divides the angle into two equal angles. Use a compass and straightedge to construct an angle bisector of $\angle D$.
2. Duplicate the two angles formed to verify that they are congruent.



Review

1. Locate the midpoint of the line segment using construction tools and label it point *M*.

2. Construct a line that is perpendicular to line *m* and passes through point *E*.

3. A cruise ship line takes a survey of adults to determine whether different age groups favor similar or different activities. The table shows the responses from the survey.

		Preferred Activity				
		Karoke	**Dance Party**	**Movie Night**	**Musical Theater**	**Comedy Shows**
Age Groups	**30–39**	26	25	18	12	20
	40–49	30	21	24	16	17
	50–59	16	15	26	30	15
	60–69	11	9	31	37	14

   a. Construct a marginal relative frequency distribution of the data.

   b. The cruise ship line wants to improve one activity that all of the adults enjoy. Construct a stacked bar graph of the relative frequency distribution for the activities. Then tell which activity the cruise ship line should choose to improve. Explain how you determined your answer.

4. Graph the figure with vertices *A*(−5, 4), *B*(3, 4), *C*(3, −2), *D*(−5, −2). Then calculate the area and perimeter of figure *ABCD*.

5. Graph the figure with vertices *A*(−1, 5), *B*(6, 1), *C*(3, −4). Then calculate the area and perimeter of figure *ABC*.