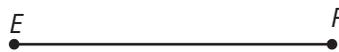## Assignment

Write

Describe the similarities and differences of a segment bisector and a perpendicular bisector.

Remember

- A perpendicular bisector is a line, line segment, or ray that bisects a line segment and is also perpendicular to the line segment.
- An inscribed polygon is a polygon drawn inside another polygon or circle in which all the vertices of the interior polygon lie on the outer figure.

Practice

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

$$E \rule{3cm}{0.4pt} F$$

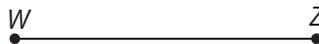How do you know that point M is the midpoint of the $\overline{EF}$?

2. Construct a line perpendicular to each given line and through the given point. Then, explain how you know the constructed line is perpendicular to the given line.

a. $\longleftarrow \bullet \longrightarrow m$
   $\quad\quad X$

b. $\longleftarrow \longrightarrow n$
   $\quad\quad \bullet G$

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.

Stretch

Research whether it is possible to trisect a segment. If not possible, explain why. If possible, use construction tools to trisect $\overline{WZ}$ and explain your steps.

$$W \rule{3cm}{0.4pt} Z$$

Review

1. Students at an elementary school were surveyed to determine their favorite recess activity. The results are shown in the table.

Favorite Recess Activity

Grade	Kickball	Soccer	Chalk Art	Jumping Rope	Total
K–3	25	28	40	25	118
4–6	54	47	15	2	118

Suppose you are the principal of the school and must order new equipment. Use the information in the frequency table to answer the questions. Support your answer with a table.

a. You anticipate that you will only have funding to order equipment for the kindergarten through third grade classes. Which type of equipment will you order in the greatest quantity?

b. You anticipate that you will only have funding to order equipment for the fourth through sixth grade classes. Which type of equipment will you order in the greatest quantity?

c. You anticipate that you will have funding to order equipment for all of the classes, but only three types of equipment. Which type of equipment will you not order?

2. Twenty-four customers were asked if they were less than or greater than 50 years old as they entered a pharmacy. They were also asked the method with which they intended to pay for their purchases. The survey results are shown in the table.

Age	Payment Method	Age	Payment Method
<50	cash	<50	cash
50+	credit card	<50	credit card
50+	check	<50	phone app
50+	cash	50+	debit card
<50	phone app	50+	credit card
<50	debit card	<50	debit card
50+	check	50+	check
<50	phone app	<50	credit card
50+	credit card	50+	debit card
50+	credit card	50+	cash
<50	cash	50+	check
50+	check	<50	phone app

a. Construct a marginal frequency distribution for the survey data.

b. What was the most commonly used method of payment for each age group? Explain how you determined your answer.

c. What was the most commonly used method of payment overall? Explain how you determine your answer.

3. Determine whether the two lines given are parallel, perpendicular, or neither. Explain your answer.

a. $y = 4x - 3$; $y = -\frac{1}{4}x + 1$

b. $2x + y = -5$; $-4x + 2y = 7$

c. $y - 3 = 3(x - 2)$; $-6x + 2y = 9$

d. $y - 8 = 12$; $x = 10$