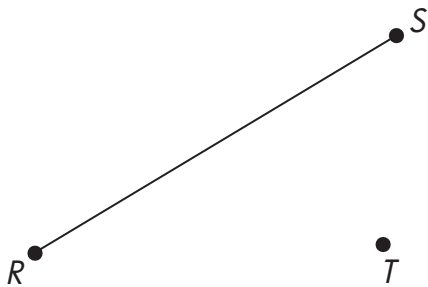


**CHAPTER**  
**10****Perpendicular and Parallel  
Line Segments****Lesson 10.1 Drawing Perpendicular Line  
Segments****Use a protractor to draw perpendicular line segments.**

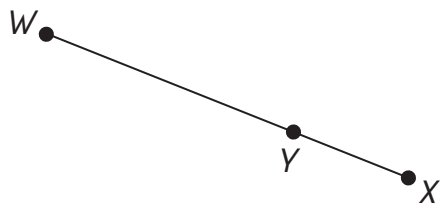
1. Draw a line segment perpendicular to  $\overline{PQ}$  at point  $P$ .



2. Draw a line segment perpendicular to  $\overline{RS}$  through point  $T$ .



3. Draw a line segment perpendicular to  $\overline{WX}$  at point  $Y$ .

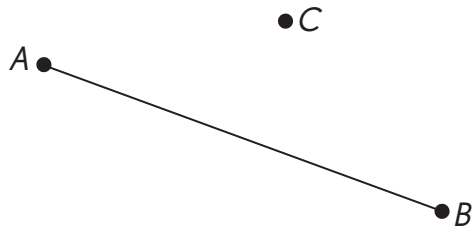


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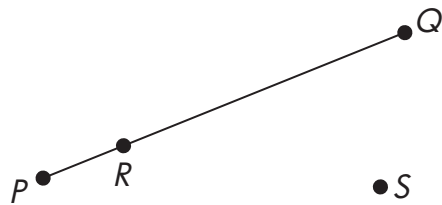
Date: \_\_\_\_\_

**Use a drawing triangle to draw perpendicular line segments.**

4. Draw a line segment perpendicular to  $\overline{AB}$  through point  $C$ .



5. Draw a line segment perpendicular to  $\overline{PQ}$  at point  $R$ .  
Then draw another line segment perpendicular to  $\overline{PQ}$  through point  $S$ .



6. Draw a line segment perpendicular to  $\overline{GH}$  at point  $H$ .  
Label the line segment  $\overline{FH}$ . Then join points  $F$  and  $G$ .  
What shape did you form? \_\_\_\_\_



## Lesson 10.2 Drawing Parallel Line Segments

Use a drawing triangle and a straightedge to draw parallel line segments.

1. Draw a line segment parallel to  $\overline{CD}$  through point  $E$ .

$E$   
●

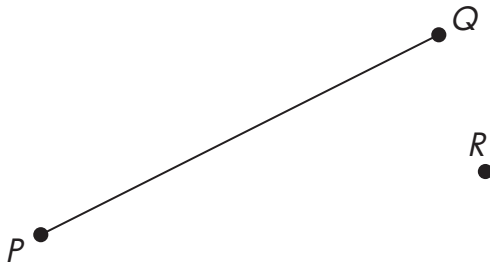


2. Draw a line segment parallel to  $\overline{XY}$  through point  $V$ .



$V$   
●

3. Draw a line segment parallel to  $\overline{PQ}$  through point  $R$ .



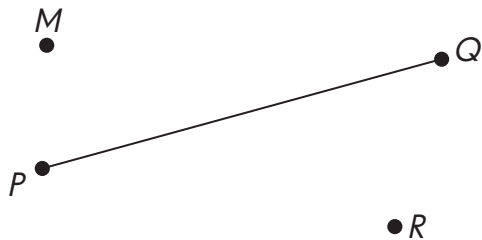
$R$   
●

Name: \_\_\_\_\_

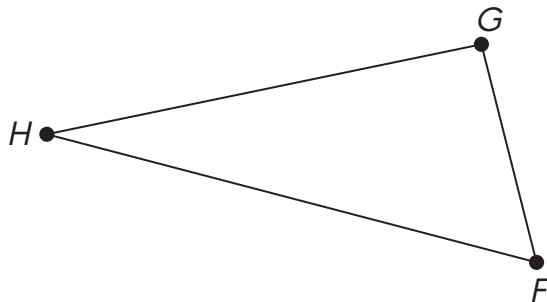
Date: \_\_\_\_\_

**Use a drawing triangle and a straightedge to draw parallel line segments.**

4. Draw a line segment parallel to  $\overline{PQ}$  through point  $R$ . Then draw another line segment parallel to  $\overline{PQ}$  through point  $M$ . Are the two line segments you drew parallel to each other? \_\_\_\_\_

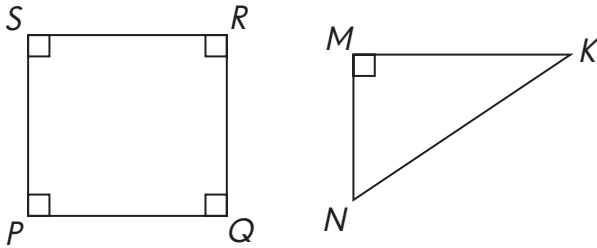


5. Draw a line segment parallel to  $\overline{HG}$  at point  $F$ . Then draw another line segment parallel to  $\overline{FG}$  at point  $H$ . Extend each line segment until they meet. What shape did you form?  
\_\_\_\_\_



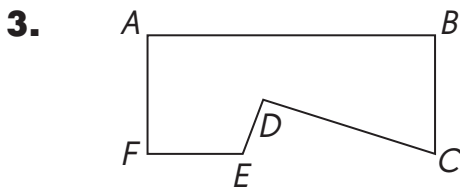
## Lesson 10.3 Horizontal and Vertical Lines

Name the line segments in the given figures.



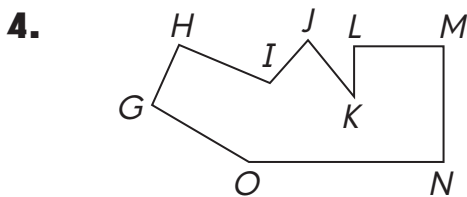
1. The horizontal line segments are \_\_\_\_\_.

2. The vertical line segments are \_\_\_\_\_.



The horizontal line segments are \_\_\_\_\_.

The vertical line segments are \_\_\_\_\_.



The horizontal line segments are \_\_\_\_\_.

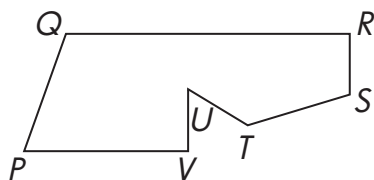
The vertical line segments are \_\_\_\_\_.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Name the line segments in the given figure.**

5.



The horizontal line segments are \_\_\_\_\_.

The vertical line segments are \_\_\_\_\_.

**Draw line segments. Then answer the question.**

6.  $\overline{AB}$  is a horizontal line segment. Draw a vertical line segment at point  $B$  and label it  $\overline{BC}$ .



7.  $\overline{XY}$  is a vertical line segment. Draw a horizontal line segment at point  $Y$  and label it  $\overline{YZ}$ .



8. What do you know about the relationship between vertical line segments and horizontal line segments drawn on the same sheet of paper?

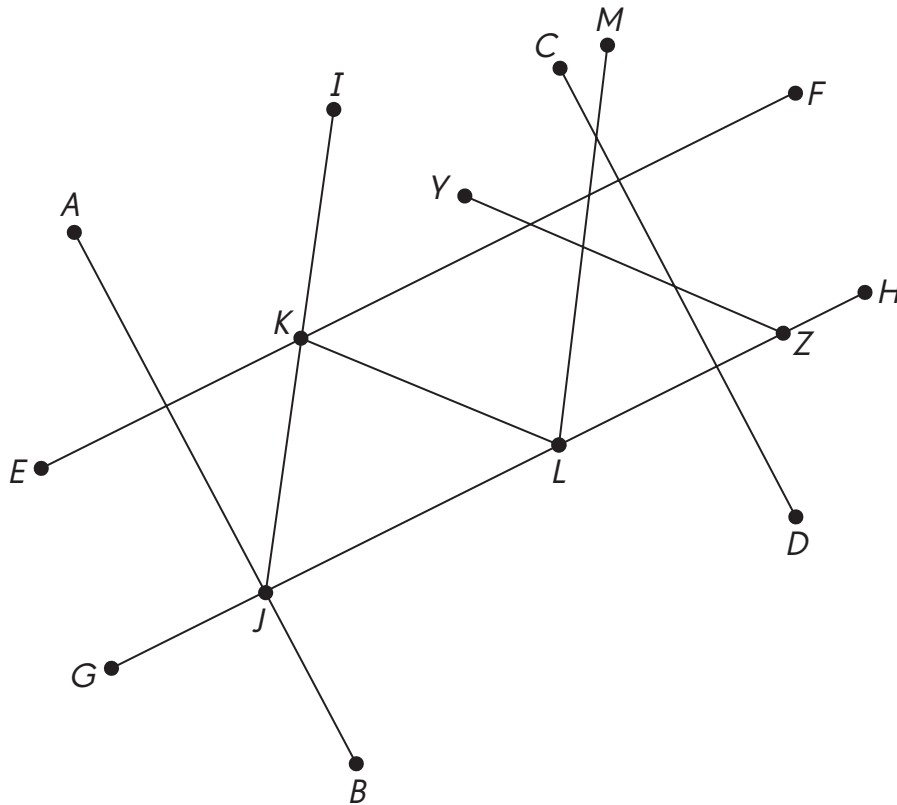
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# Put On Your Thinking Cap!

Use a protractor, or a drawing triangle and a straightedge, to name three pairs of line segments that are



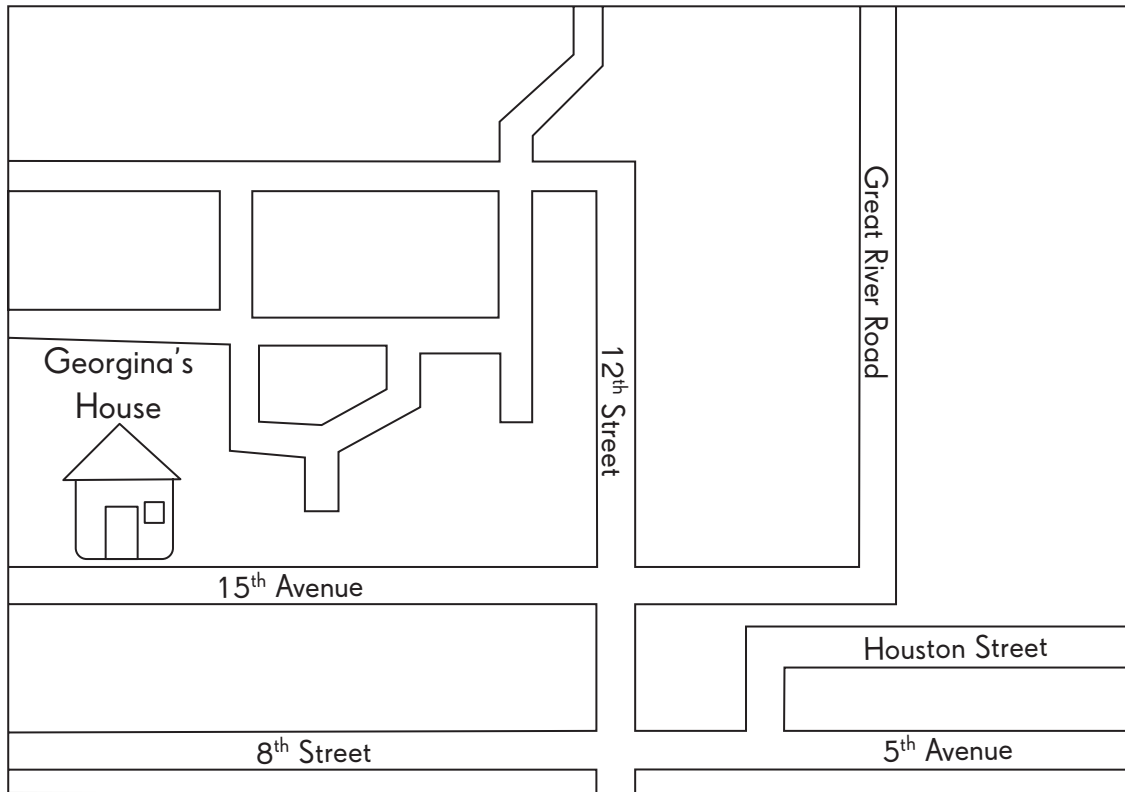
1. perpendicular: \_\_\_\_\_  
\_\_\_\_\_

2. parallel: \_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

This is a map of Georgina's neighborhood.



**Fill in the blanks.**

3. Which road is perpendicular to the road in front of Georgina's house and nearest to her house? \_\_\_\_\_

4. Name the roads that are parallel to 15<sup>th</sup> Avenue.  
\_\_\_\_\_

5. Name the four roads that are perpendicular to 12<sup>th</sup> Street.  
\_\_\_\_\_



Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Solve.**

These figures are made from matchsticks. The number of right angles in each figure forms a pattern.



Figure 1

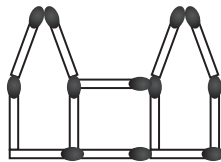


Figure 2

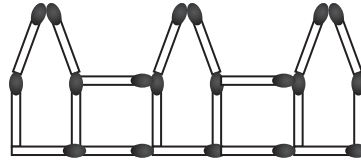


Figure 3

Figure 1 has 2 right angles.  
Figure 2 has 8 right angles.  
Figure 3 has 14 right angles.

6. Draw Figure 4 and state the number of right angles it has.

\_\_\_\_\_ right angles

7. How many right angles are there in Figure 6?  
What is the pattern formed by the number of right angles?

\_\_\_\_\_ right angles

\_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Use the pattern you found on the previous page to complete the table.

8.

<b>Figure Number</b>	1	2	3	4	5	6	7	8	9	10
<b>Number of Right Angles</b>	2									

9. How many right angles will there be in the 20<sup>th</sup> figure?

\_\_\_\_\_ right angles

10. State the number of right angles in the n<sup>th</sup> figure.

\_\_\_\_\_ right angles