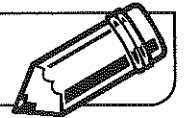**LESSON 3·3**

Segments, Lengths, and Collinear Points

In geometry, there are conventions used to name a figure and to name the measure of that figure. For example, $\angle N$ names an angle with the vertex N, while the notation $m\angle N$ represents the measure of that angle. For line segments, the notation NM names the line segment with the endpoints N and M, and the notation NM represents the length of that line segment.

M •————————————————————————————————• N

The notation NM = 4 inches means *line segment $\overline{NM}$ is 4 inches long.*
Use the points and measures shown on the line below to answer Problems 1 and 2.

```
        5      10         15              20
◄———•———•——————•——————————•———————————————•——►
    O   P      Q          R               S
```
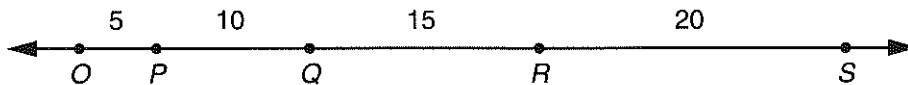
1. Which of the following statements show the correct use of these naming conventions for line segments and the measures of line segments? Circle your answer.

   a. $PQ + QR + RS = PS$

   b. $\overline{OP} + \overline{PQ} = OQ$

   c. $OP * 2 = \overline{PQ}$

   d. $\overline{OP} + \overline{QR} + \overline{RS} = 35$

2. For each statement with errors, write the corrections.

   _____

   _____

3. Points that lie on the same line are called **collinear points.** The points H, S, D, K, L, and B are collinear. Use the following information to locate them on the line and label the points accordingly.
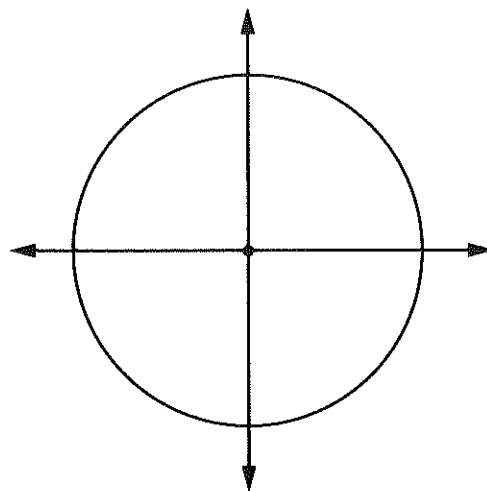
   $KS + SB = KB$

   $DH + HS = DS$

   $DH + HK = DK$

   Points L and B are not between any other labeled points on the line.

```
◄——•————————•————————•————————•————————•————————•——►
   ___      ___      ___    ___     ___      ___
```

LESSON 3·3 | Measuring the Parts

Use the figure at the right to help you think about the total number of degrees in a circle.

Then use what you know about angles and the total number of degrees in a circle to answer the following questions.

1. How many degrees are in a circle? _____

2. What is the degree measure for each of the 4 angles in the circle above? _____

3. If a circle is divided into 8 equal parts, what is the degree measure for each of the 8 angles formed? _____

4. If a circle is divided into 12 equal parts, what is the degree measure for each of the 12 angles formed? _____

5. If a circle is divided into 6 equal parts, what is the degree measure of each of the 6 angles formed? _____

6. If a circle is divided into equal parts so that the angles have a degree measure of 120°, how many angles would be formed? _____

7. If a circle is divided into 360 equal parts, what is the degree measure of each of the 360 angles? _____