Lesson 7-3

Vocabulary and Key Concepts

Angle Sum of a Triangle
The sum of the measures of the angles of a triangle is \[ \_\_\_\_\_. \]

Congruent sides are

Examples

1. Classifying Triangles by Sides
   Classify each triangle by its sides.

   a. There are two congruent sides, so the triangle is \[ \_\_\_\_. \].

   b. There are no congruent sides, so the triangle is \[ \_\_\_\_. \].
2. **Classifying Triangles by Angles** Classify each triangle by its angle measures.

   a. \(\begin{array}{c}
   \text{106°} \\
   36° \\
   38° \\
   \end{array}\)

   The triangle has \(\underline{\text{obtuse}}\) angle, so it is an \(\underline{\text{obtuse}}\) triangle.

   b. \(\begin{array}{c}
   75° \\
   55° \\
   50° \\
   \end{array}\)

   The triangle has \(\underline{\text{acute}}\) angles, so it is an \(\underline{\text{acute}}\) triangle.

3. **Finding an Angle Measure** Find the value of \(x\) in the triangle.

   \[
   x + 78° + 56° = \underline{\quad} \\
   x + \underline{\quad} = \underline{\quad} \\
   x + \underline{\quad} - \underline{\quad} = \underline{\quad} - \underline{\quad} \\
   x = \underline{\quad}
   \]

**Quick Check**

1. Classify \(\triangle BCD\) by its sides.

   \[\begin{array}{c}
   A \\
   C \\
   D \\
   \end{array}\]

   \(\underline{\text{scalene}}\)

2. Classify each triangle by its angle measures.

   a. \(\begin{array}{c}
   63° \\
   27° \\
   \end{array}\)

   \(\underline{\text{scalene}}\)

   b. \(\begin{array}{c}
   64° \\
   63° \\
   53° \\
   \end{array}\)

   \(\underline{\text{scalene}}\)

3. Find the value of \(x\) in the triangle.

   \[\begin{array}{c}
   \underline{\quad} \\
   32° \\
   126° \\
   \end{array}\]

   \(\underline{\text{scalene}}\)