Module 9   Characteristics of Geometric Shapes
Lesson 5   Inductive and Deductive Reasoning

Guided Practice 9.5

**Set 1**

1 Draw the next figure in the sequence.
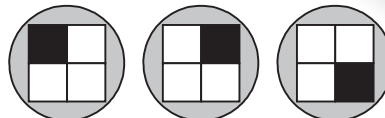
2 The sum of the numbers from one to 10 is 55.
The sum of the numbers from 11 to 20 is 155.
The sum of the numbers from 21 to 30 is 255.
According to this pattern, what is the sum of the
numbers from 91 to 100?

Numbers	Sum
1-10	55
11-20	155
21-30	255

Numbers	Sum
1-10	55
11-20	155
21-30	255
31-40	355
41-50	455
51-60	555
61-70	655
71-80	755
81-90	855
91-100	955

3 Since bisecting means to divide into two congruent parts, find a counterexample to
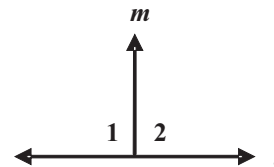the following conjecture:

When any angle is bisected, two acute angles are formed.
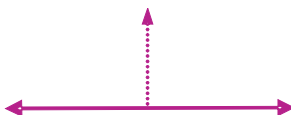
Set 2

1 Given that ∠1 ≅ ∠2, prove that l is perpendicular to m.

m

1 | 2

l

$$m\angle 1 = m\angle 2$$
$$m\angle 1 + m\angle 2 = 180°$$
$$m\angle 1 = 90° \text{ and } m\angle 2 = 90°$$
$$\textbf{Therefore, } l \perp m$$

2 Given that M is the midpoint of $\overline{AB}$, prove that $AM = \dfrac{1}{2}AB$.

$$AM = MB$$
$$AM + MB = AB$$
$$AM + AM = AB$$
$$2AM = AB$$
$$AM = \dfrac{1}{2}AB$$