

**LESSON**  
**2-1**

## Practice B

### *Using Inductive Reasoning to Make Conjectures*

Find the next item in each pattern.

1. 100, 81, 64, 49, . . .

\_\_\_\_\_

3. Alabama, Alaska, Arizona, . . .

\_\_\_\_\_

2.  . . .

\_\_\_\_\_

4. west, south, east, . . .

\_\_\_\_\_

Complete each conjecture.

5. The square of any negative number is \_\_\_\_\_.

6. The number of segments determined by  $n$  points is \_\_\_\_\_.

Show that each conjecture is false by finding a counterexample.

7. For any integer  $n$ ,  $n^3 > 0$ .

\_\_\_\_\_

8. Each angle in a right triangle  
has a different measure.

9. For many years in the United States, each bank printed its own currency. The variety of different bills led to widespread counterfeiting. By the time of the Civil War, a significant fraction of the currency in circulation was counterfeit. If one Civil War soldier had 48 bills, 16 of which were counterfeit, and another soldier had 39 bills, 13 of which were counterfeit, make a conjecture about what fraction of bills were counterfeit at the time of the Civil War.

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**Make a conjecture about each pattern. Write the next two items.**

10. 1, 2, 2, 4, 8, 32, . . .

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- 11.



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## Practice B



1. 36

2. north

3. Arkansas

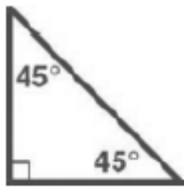
4. north

5. positive

6.  $n - 3$

7. Possible answers: zero, any negative number

8.



9. One-third of the bills were counterfeit.

10. Each item, starting with the third, is the product of the two preceding items; 256, 8192.

11. The dot skips over one vertex in a clockwise direction.