

## Section 1.1 Inductive Reasoning

- ▶ A **conjecture** is an unproven statement that is based on observations.
- ▶ **Inductive reasoning** is the process of looking for patterns and making conjectures.

Example 1. Kate observes that during the evening commute, buses stop at the same times each day. Buses stop at 5:15P.M., 5:38P.M., 6:01P.M., and 6:24P.M. Make a conjecture about how often a bus comes to this stop during rush hour.

Example 2. Complete the conjecture.

*The product of an even and an odd number is \_\_\_\_\_*

- ▶ A **counterexample** is an example that shows a conjecture is false.  
A counterexample can be a drawing, a statement, or a number.

Example 3. Show the conjecture is false by finding a counterexample:  
*The difference of two positive numbers is always positive.*