LESSON 11.6

NAME _____ DATE _____

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Activity Lesson Opener

For use with pages 699–705

SET UP: Work in a group.
YOU WILL NEED: • measuring tape • masking tape • pennies

1. Each group makes a 4-foot by 4-foot square gameboard on the floor with masking tape. Each group chooses a shape from the list below and makes this shape on the floor with masking tape anywhere inside the square. (Your shape can touch the edge at one or more points.)

   a. a square with side length 2 feet

   b. a rectangle with length 16 inches and width 36 inches

   c. a rectangle with length 4 feet and width 1 foot

   d. an isosceles right triangle with hypotenuse 4 feet

   e. an equilateral triangle with side length 3 feet

2. The object of the game is to toss pennies that land inside the shape. To play the game, each member of the group stands at an edge of the gameboard and tosses 10 pennies. If a penny lands outside the gameboard, try again. The person with the most pennies inside the shape wins. Do not move the pennies.

3. Find the ratio $\frac{\text{Number of pennies inside shape}}{\text{Total number of pennies tossed}}$ for your group and write it as a percent. Compare results with other groups.

4. If every point of the gameboard were an equally likely landing point for a tossed penny, then the *geometric probability* of a penny landing inside the shape is $\frac{\text{Area of shape}}{\text{Area of game board}}$. Find this ratio for your group and write it as a percent. Compare with your result in Exercise 3 and make a conjecture or a comment. Compare with other groups and examine their gameboards.