NAME _____ DATE _____

Available as a transparency

Activity Lesson Opener

For use with pages 172–178

SET UP: Work with a partner.
YOU WILL NEED: • grid paper • ruler

Graph the lines described on a coordinate grid. Before you solve each riddle, think about the relationship between the lines that have different slopes. Then, use your graph to solve the riddle. Be as specific as possible.

1. I am a figure whose sides are parts of lines with slopes of 2 and $-\frac{1}{2}$. The equations of these lines are $y = 2x + 1$, $y = 2x - 2$, $y = -\frac{1}{2}x + 2$, and $y = -\frac{1}{2}x - 2$. What type of figure am I?

2. I am a figure whose sides are parts of lines with slopes of 1 and -1. The equations of these lines are $y = x$, $y = x - 4$, $y = -x$, and $y = -x + 4$. What type of figure am I?

3. I am a figure whose sides are parts of lines with equations $y = -4x + 2$, $y = -4x - 3$, $y = \frac{1}{4}x + 2$, and $y = \frac{1}{4}x - 3$. What type of figure am I?

4. I am a figure with sides that are parts of lines with equations $y = \frac{2}{3}x + 5$, $y = -\frac{3}{2}x + 1$, and $y = -\frac{1}{2}x - 1$. What type of figure am I?

5. Look at the slopes of the lines that formed the right angles in each figure. What do you notice about the product of the slopes of perpendicular lines? Make a conjecture about the slope of perpendicular lines.