

Name \_\_\_\_\_

# 4-9A Lesson Master

## Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

### VOCABULARY

1. **Fill in the Blank** If two perpendicular lines have slopes  $g$  and  $h$ , then  $gh =$  \_\_\_\_\_.
2. What is the slope of a line perpendicular to a horizontal line? \_\_\_\_\_

### SKILLS Objective D

In 3–8, find an equation for the line meeting the given description.

3. perpendicular to  $y = 3x - 5$  with a  $y$ -intercept of 2 \_\_\_\_\_
4. perpendicular to  $y = -\frac{2}{3}x + 7$  and containing  $(4, 1)$  \_\_\_\_\_
5. perpendicular to  $y = 7$  and containing  $(4.2, -7.4)$  \_\_\_\_\_
6. perpendicular to  $x = 0.13$  and containing  $(\sqrt{7}, \pi)$  \_\_\_\_\_
7. containing  $(-5, 7)$  and perpendicular to the line through  $(6, 3)$  and  $(0, 0)$  \_\_\_\_\_
8. the perpendicular bisector of  $\overline{AB}$  where  $A = (1, 3)$  and  $B = (5, -1)$  \_\_\_\_\_

### PROPERTIES Objective H

In 9–11, determine whether the two lines are *parallel*, *perpendicular*, or *neither*.

9. Line  $a$  has slope  $\frac{1}{7}$  and line  $b$  has slope 7. \_\_\_\_\_
10. Line  $m$  is horizontal and line  $n$  has slope zero. \_\_\_\_\_
11. Line  $p$  has slope  $-0.4$  and line  $q$  has slope 2.5. \_\_\_\_\_
12.  $L$  is a matrix representing a line that does not contain the origin. Determine whether each matrix operation results in a matrix representing a line *parallel* to  $L$ , *perpendicular* to  $L$ , or *neither*.

a.  $\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix} L$  \_\_\_\_\_

b.  $\begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix} L$  \_\_\_\_\_

c.  $\begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix} L$  \_\_\_\_\_

d.  $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix} L$  \_\_\_\_\_