

Name \_\_\_\_\_

1-3

Lesson Master

Questions on SPUR Objectives  
See pages Student Edition 71–75 for objectives.

**SKILLS** Objectives B, C, and D

In 1 and 2, for  $p$ : *Joan grows squash in her garden* and  $q$ : *Joan grows peas in her garden*, Write the statement whose logical expression is given.

1.  $p$  and  $q$  \_\_\_\_\_
2.  $p$  or (*not*  $q$ ) \_\_\_\_\_
- \_\_\_\_\_

In 3 and 4, write the negation of each statement.

3. *You may use a compass and you may use a ruler.* \_\_\_\_\_
- \_\_\_\_\_
4.  $k \leq 2.5$  \_\_\_\_\_

In 5 and 6, determine the truth value of each statement for  $p(x)$ :  $x > 5$  and  $q(x)$ :  $x \leq 14$ .

5. *not*( $p(2)$ ) and  $q(2)$  \_\_\_\_\_ 6.  $p(4)$  and ( $q(7)$  or  $q(14)$ ) \_\_\_\_\_

**PROPERTIES** Objectives E and H

7. Give the truth value of ( $p$  or  $q$ ) and ( $\sim q$ ) if  $p$  is true and  $q$  is false. \_\_\_\_\_
8. Is the following statement true or false? If false, find a counterexample.  
*All positive integers are either prime or composite.*
- \_\_\_\_\_

**USES** Objective I

9. Suppose Cheryl has marching band practice on Mondays and Thursdays and play rehearsals on Mondays, Wednesdays, and Fridays. For  $p$ : *Cheryl has marching band practice* and  $q$ : *Cheryl has play rehearsal*, what is the truth value of  $\forall \text{ days } \exists \text{ a day such that } p \text{ and } q$ ?
- \_\_\_\_\_

**REPRESENTATIONS** Objective H

10. Complete the truth table at the right.

$p$	$q$	$p$ and $q$	$p$ or ( $p$ and $q$ )