

Name _____

1-5 Lesson Master

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

SKILLS Objectives A, B, and C

1. Write the (a) contrapositive and (b) inverse of the following statement:
If you finish your vegetables, then you can have dessert.
- a. _____
- b. _____
2. Rewrite the conditional statement in Question 1 in the given form.
- a. p only if q . _____
- b. q is a necessary condition for p . _____
3. Write the negation of the following statement: \forall real number x , if $x^2 = 16$, then $\sqrt{x} = 2$.

PROPERTIES Objective E

4. *True or False.* An *if-then* statement can be logically equivalent to an *or* statement. Give an example to support your answer.
- _____
- _____

USES Objective I

5. Suppose Josh’s track coach tells him, “*If you train every day, you will improve your time by the next meet.*” Josh does not train every day, but his time improves at the next meet. Does this tell you that the coach’s statement was false? Explain your answer.
- _____
- _____

REPRESENTATIONS Objective L

6. Complete the truth table at the right for $(p \Rightarrow q) \Rightarrow (q \Rightarrow p)$. Two columns should be identical. To what simpler statement is $(p \Rightarrow q) \Rightarrow (q \Rightarrow p)$ equivalent?

p	q	$p \Rightarrow q$	$q \Rightarrow p$	$(p \Rightarrow q) \Rightarrow (q \Rightarrow p)$

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