

Name \_\_\_\_\_

**1-7 Lesson Master**

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

**PROPERTIES** Objective G

1. Consider the following argument:

- (1) *If a triangle does not contain two congruent angles, then it is not isosceles.*
- (2) *Triangle KMR is equilateral.*
- (3) *If a triangle contains two congruent angles, then it contains two acute angles.*
- (4) *If a triangle is equilateral, then it is isosceles.*
- (5) *Therefore, triangle KMR contains two acute angles.*

a. Use the following variables to translate the argument into symbolic form:

*c(x): A triangle x contains two congruent angles.* \_\_\_\_\_

*i(x): A triangle x is isosceles.* \_\_\_\_\_

*k: A triangle KMR.* \_\_\_\_\_

*e(x): A triangle x is equilateral.* \_\_\_\_\_

*a(x): A triangle x contains two acute angles.* \_\_\_\_\_

b. Reorder the symbolic statements into an order that lets you apply the laws in this chapter, changing statements to their contrapositives as necessary.

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c. Is the argument valid? Justify your answer with laws or errors from this chapter.

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**USES** Objective J

In 2 and 3, determine whether the given argument is valid and justify your answer with at least one law or error from this chapter.

2. If my cat is hungry in the morning, then she will wake me up early. If I do not feed my cat before I go to bed, she will be hungry in the morning. If my cat wakes me up early, then I turn off my alarm before it goes off. I did not turn off my alarm before it went off this morning. Therefore, I fed my cat before I went to bed.

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3. If I order Chinese food, there are leftovers. If there are leftovers, I do not cook dinner. If I do not cook dinner, my kitchen is clean. My kitchen is clean. Therefore I ordered Chinese.

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