

**LESSON**  
**2-2**

## Practice B

### Conditional Statements

Identify the hypothesis and conclusion of each conditional.

1. If you can see the stars, then it is night.

Hypothesis: \_\_\_\_\_

Conclusion: \_\_\_\_\_

2. A pencil writes well if it is sharp.

Hypothesis: \_\_\_\_\_

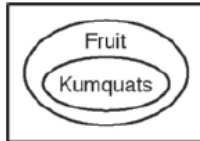
Conclusion: \_\_\_\_\_

Write a conditional statement from each of the following.

3. Three noncollinear points determine a plane.

\_\_\_\_\_

4.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Determine if each conditional is true. If false, give a counterexample.

5. If two points are noncollinear, then a right triangle contains one obtuse angle.

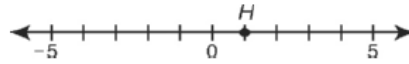
\_\_\_\_\_

6. If a liquid is water, then it is composed of hydrogen and oxygen.

\_\_\_\_\_

7. If a living thing is green, then it is a plant.

8. "If  $G$  is at 4, then  $GH$  is 3." Write the converse, inverse, and contrapositive of this statement. Find the truth value of each.

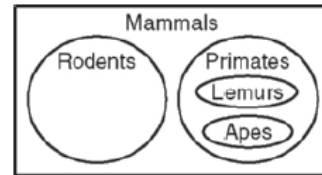


Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

This chart shows a small part of the *Mammalia* class of animals, the mammals. Write a conditional to describe the relationship between each given pair.



9. primates and mammals \_\_\_\_\_
10. lemurs and rodents \_\_\_\_\_
11. rodents and apes \_\_\_\_\_
12. apes and mammals \_\_\_\_\_

## Practice B

1. Hypothesis: You can see the stars.  
Conclusion: It is night.
2. Hypothesis: A pencil is sharp.  
Conclusion: The pencil writes well.
3. If three points are noncollinear, then they determine a plane.
4. If a food is a kumquat, then it is a fruit.
5. true
6. true
7. false; sample answer: a frog
  
8. Converse: If  $GH$  is 3, then  $G$  is at 4; false  
Inverse: If  $G$  is not at 4, then  $GH$  is not 3; false  
Contrapositive: If  $GH$  is not 3, then  $G$  is not at 4; true
9. If an animal is a primate, then it is a mammal.
10. Sample answer: If an animal is a lemur, then it is not a rodent.
11. Sample answer: If an animal is a rodent, then it is not an ape.
12. If an animal is an ape, then it is a mammal.