

p. 47 – 48: 2, 4, 5a, 6, 8 (converse and inverse only)

Homework

- 2** Write the converse, the inverse, and the contrapositive of each statement. Determine the truth of each of the new statements.
 - a** If each side of a triangle has a length of 10, then the triangle's perimeter is 30.
 - b** If an angle is acute, then it has a measure greater than 0 and less than 90.
- 4** Draw a Venn diagram for the true conditional statement "If a person lives in Chicago, then the person lives in Illinois."
Assuming that each of the following "Given . . ." statements is true, determine the truth of the conclusion.
 - a** Given: Penny lives in Chicago.
Conclusion: Penny lives in Illinois.
 - b** Given: Benny lives in Illinois.
Conclusion: Benny lives in Chicago.
 - c** Given: Kenny does not live in Chicago.
Conclusion: Kenny must live in Illinois.
 - d** Given: Denny does not live in Illinois.
Conclusion: Denny lives in Chicago.

- 5** Write a concluding statement for each of the following chains of reasoning.

$$\begin{aligned}\mathbf{a} \quad & a \Rightarrow b \\ & d \Rightarrow \sim c \\ & \sim c \Rightarrow a \\ & b \Rightarrow f\end{aligned}$$

- 6** Write the converse, the inverse, and the contrapositive of “If M is the midpoint of \overline{AB} , then M, A, and B are collinear.” Are these statements true or false?
- 8** Write the converse, the inverse, and the contrapositive of each statement.
- a** If a ray bisects an angle, it divides the angle into two congruent angles.
 - b** If two sides of a triangle are congruent, then the angles opposite those sides are congruent.