Chapter 2 Review Sheet

Do you know HOW?

Use inductive reasoning to describe each pattern and find the next two terms of each sequence.

1. 5, 1, 7, 0, 9, −1, 11, . . .

2. 4.5, 0.5, 5.0, 0.6, 5.6, 0.7, 6.3, . . .

Find a counterexample for each statement.

3. An apple is a red fruit.

4. If a parallelogram has four congruent sides, then it is a square.

Write the converse, inverse, and contrapositive for each true statement. Determine the truth value for each.

5. If a polygon is a triangle, then it has exactly three sides.

converse _____

inverse _____

contrapositive_____

6. If Jerrod is in 11th grade, then Jerrod is in high school.

converse _____

inverse _____

contrapositive_____

Rewrite each definition as a biconditional.

7. Squares have four congruent sides and four congruent angles.

8. Isosceles trapezoids have two opposite congruent sides.

If possible, make a conclusion from the given true statements. What reasoning did you use?

9. If you exercise regularly, then you will have a healthier heart.
Ben exercises regularly.

10. If the fuel gauge on a car is pointing to "E," then it is time to fill up the gas tank. The fuel gauge in Jani's car is pointing to "E."

11. Give a reason for each step of the following algebraic proof

$$4(3-x) = -3 \qquad \text{Given}$$
$$12 - 4x = -3 \qquad \underline{\hspace{3cm}}$$
$$-4x = -15 \qquad \underline{\hspace{3cm}}$$
$$x = 3.75 \qquad \underline{\hspace{3cm}}$$

12. Find the value of the variable.