Name _____ Class _____ Date _____

2-1 • Guided Problem Solving

GPS Student Page 84, Exercise 36

Error Analysis Ellen claims that both this conditional and its converse are true.
If x is an integer divisible by 3, then x^2 is an integer divisible by 3.

a. Write the converse of the conditional.
b. Only one of the statements is true. Determine which statement is false and provide a counterexample to support your answer.

Read and Understand

1. What is the hypothesis of Ellen's statement? _____

2. What is the conclusion of Ellen's statement? _____

Plan and Solve

3. Is it true that if x is an integer divisible by 3, then x^2 is an integer divisible by 3? _____

Explain your reasoning. _____

4. Write the converse of Ellen's statement. _____

5. Which statement is false? Give a counterexample.

_____

Look Back and Check

6. Check the reasonableness of your answers. Is it possible to find a counterexample to prove that Ellen's original statement is false? _____

Explain. _____

7. Is it possible for the converse to be true if you can find a counterexample? Explain.

_____

Solve Another Problem

8. Write the converse of the following conditional statement.
If $x = 4$, then $5x + 3 = 23$.
Determine the truth value of the statement and its converse.

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