

1.2 Inductive and Deductive Reasoning

M. Goodroe - Quantitative Skills and Reasoning

Objectives:

1. Use inductive reasoning to make *Conjectures*.
2. Give examples of correct and incorrect inductive reasoning.
3. Be able to distinguish between inductive and deductive reasoning.

Key Terms:

Inductive Reasoning
Hypothesis
Conjecture
Deductive Reasoning

Name: _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Decide whether the argument is an example of inductive or deductive reasoning.

- 1) The last four answers were false, therefore the next will be false.
- 2) Fresh fruit costs more in winter. This is January. These fresh strawberries cost more.
- 3) Practice makes perfect. Therefore, if I practice, I'll be perfect.
- 4) $47 + 41 = 88$, $31 + 29 = 60$, $7 + 47 = 54$. The sum of two prime numbers is even.
- 5) If $(-p)^2 = p^2$, then $(-6)^2 = 36$

Illustrate Goldback's conjecture for the following number.

9) 24

10) 36

Use inductive reasoning.

- 6) Use inductive reasoning to predict the next term in the sequence of numbers.
7, 13, 19, 25, 31, ?
- 7) Use inductive reasoning to predict the next term in the sequence of numbers.
 $1, -\frac{1}{2}, \frac{1}{4}, -\frac{1}{8}, \frac{1}{16}, ?$
- 8) How many different squares are there in a 4 by 4 square? Use inductive reasoning to answer.