

Deductive versus Inductive Reasoning

Objectives:

- Use a Venn diagram to determine the validity of an argument.
- Complete a pattern with the most likely possible next item.
- Explain and general rule or pattern given a word and letter pairing.

Suggested Problems:

page 9:
problems 3, 5, 9, 10, 11, 13, 17, 21,
25, 27, 29, 30, 31, 33, 35, 39, 41,
42, 44

Vocabulary:

- deductive reasoning
- syllogism
- inductive reasoning
- Venn diagram
- valid/invalid argument

Possible Classroom Examples:

Draw a Venn diagram to represent each syllogism.

1. No one who can afford health insurance is unemployed.
2. All politicians can afford health insurance.
Therefore, no politician is unemployed.

1. All homeless people are unemployed.
2. Roseanne is not a homeless person.
Therefore, Roseanne is not unemployed.

Draw a Venn diagram to determine the validity of the argument.

1. All doctors are men.
2. My mother is a doctor.
Therefore, my mother is a man.

Classify each argument as deductive or inductive.

1. I ate a chili dog at Joe's and got indigestion.
2. I ate a chili dog at Ruby's and got indigestion.
Therefore, chili dogs give me indigestion.

1. All spicy foods give me indigestion.
2. Chili dogs are spicy food.
Therefore, chili dogs give me indigestion.

What is the most likely next number or letter.

- 1, 2, 4, 7, ____
- 4, 7, 10, 4, ____
- 31, 28, 31, 30, ____
- O, T, T, F, ____
- T, F, S, S, ____

Determine the rule for assigning the letter to each word.

addition	difference	product	divisor	fraction
n	e	t	r	

exponent	difference	product	quotient	factor
f	j	p	v	