

Lesson 3-6 Vocabulary and Notes:

In the following problems the four items have a common bond. Write the common bond in the space provided (be specific). The first one has been done for you.

- 1) 1, 3, 5, 7, ... they are all odd numbers
- 2) May, August, January, October _____ Months with 31 days
- 3) level, radar, madam, tenet _____ Palindromes
- 4) Da Gama, Columbus, Magellan, Raleigh _____ Explorers

Below are four groups of the first letters from rather common sequences. So if you saw S, M, T, W, T, F, S you would know that the group is the days of the week. Try to identify the following sequences.

- 5) J, F, M, A, M, J, J, A, S, O, N, D _____ Months of the year
- 6) O, T, T, F, F, S, S, E, N, T _____ numbers 1 - 10
- 7) M, V, E, M, J, S, U, N _____ planets
- 8) I, F, Y, M _____ U.S. customary measures

Try to figure out the following series and write the next number.

- 9) 1, 3, 5, 7, 9, 11
- 10) 3, 9, 27, 81, 243
- 11) 1, 3, 6, 10, 15
- 12) 2, 4, 5, 10, 11, 22, 23, 46, 47, 94

<u>Deductive Reasoning</u>	<u>Inductive Reasoning</u>
Conclusion based on accepted statements (definitions, postulates, previous theorems, corollaries, and given information)	Conclusions based on several past observations (patterns)
Conclusion <i>must</i> be true if hypotheses are true.	Conclusion is <i>probably</i> true but not necessarily true.

Tell whether the following process represents deductive or inductive reasoning.

- 1) Raymond noticed that spaghetti had been on the school menu for the past five Wednesdays. Raymond decides that the school always serves spaghetti on Wednesdays.

Inductive Reasoning

- 2) By using the definitions of equilateral triangle and of perimeter, Katie concludes that the perimeter of every equilateral triangle is three times the length of a side.

Deductive Reasoning

Accept the two statements as given information. State a conclusion based on deductive reasoning. If no conclusion can be reached, write none.

- 3) Chan is older than Pedro
Pedro is older than Sarah

Chan is older than Sarah

- 4) Valerie is older than Greg
Dan is older than Greg

no conclusion

Write the equation you think should come next.

- 5) $9 \times 9 + 7 = 88$
 $98 \times 9 + 6 = 888$
 $987 \times 9 + 5 = 8888$

$$9876 \times 9 + 4 = 88888$$