Practice Worksheet for Lesson 3-6   Name:

                                           Mailbox #:

Look for a pattern and predict the next <u>two</u> numbers in each sequence.

1) 1, 4, 16, 64, _____, _____   2) 1, 1, 2, 3, 5, 8, _____, _____

3) 1, 1/3, 1/9, 1/27, _____, _____   4) 1, 4, 9, 16, _____, _____

5) 2, 3, 5, 8, 12, _____, _____   6) 10, 12, 16, 22, 30, _____, _____

7) 40, 39, 36, 31, 24, _____, _____   8) 8, -4, 2, -1, ½, _____, _____

Tell whether the reasoning process is deductive or inductive.

9) Ky did his assignment, adding the lengths of the sides of triangles to find the perimeters. Noticing the results for several equilateral triangles, he guesses that the perimeter of every equilateral triangle is three times the length of a side.

10) Linda observes that $(-1)^2 = +1$, $(-1)^4 = +1$, and $(-1)^6 = +1$. She concludes that every even power of (-1) is equal to $+1$.

11) John knows that multiplying a number by -1 merely changes the sign of the number. He reasons that multiplying a number by an even power of -1 will change the sign of the number an even number of times. He concludes that this is equivalent to multiplying a number by +1, so that every even power of -1 is equal to +1.

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

12) Polygon G has more than 6 sides
    Polygon G has fewer than 8 sides

13) Polygon G has more than 6 sides
    Polygon K has more than 6 sides