Sequences Review (Sections 2.1-2.6)   NAMES:

Turn in one paper per group but be sure all members of the group have seen the final answers. Circle your name if the paper that gets turned in is your copy.

These are selected questions (numbers copied from book) from Set I of the Chapter 2 Summary and Review exercise set.

The number sequence below can be thought of an arithmetic or geometric sequence. [Answer questions 1 and 2 concerning it.]

6   6   6   6   6   6   …

1. As an arithmetic sequence, what is the common difference?

2. As a geometric sequence, what is the common ratio?

Find the missing term in each of the following sequences. [Also, in the space provided, give the name of the sequence from this list: arithmetic sequence, geometric sequence, binary sequence, sequence of squares, sequence of cubes, Fibonacci sequence, none of the above.]

3.   2   6   10   ___   18   _____

4.   9   16   25   ___   49   _____

5.   4   12   36   ___   324   _____

6.   1   8   27   ___   125   _____

7.   8   13   21   ___   55   _____

8.   1   3   6   ___   15   _____

Among the terms sometimes used by the book industry to indicate the size of a book's pages are folio, quarto, and octavo. These words refer to the number of pages that can be obtained from large printer's sheets by folding them as shown by the gray or red lines in the figure on the right. Smaller pages obtained from the large sheets are referred to as 16 *mo*, 32 *mo*, and 64 *mo*.

Folio

12. What kind of number sequence do these terms suggest? [Write the first six terms of the number sequence down.]
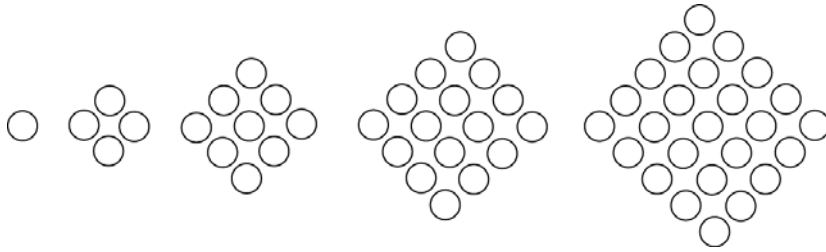

Quarto

13. Why does the folding of the sheets result in this particular sequence?

Octavo

The pattern below is illustrated by these figures.

14. [Complete the equations to the right.]

$$1 = 1$$
$$1+2+1 =$$
$$1+2+3+2+1 =$$
$$1+2+3+4+3+2+1 =$$
$$1+2+3+4+5+4+3+2+1 =$$

15. What sequence do the numbers on the right [side of the equations] form?

16. How do the figures illustrate this? [Explain how the sums such as "1 + 2 + 3 + 2 + 1" are shown in the figures. Independently, explain how the square numbers such as "9" can be found from the figures.]