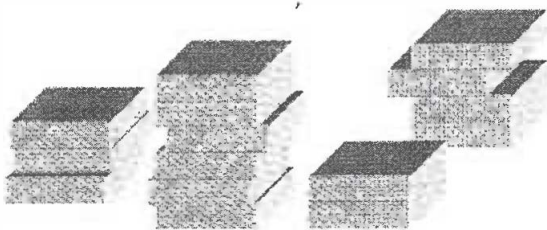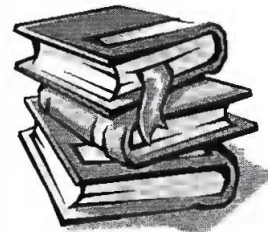# A Page of Problems

A Craig Loewen

Middle School

Show all the ways that 15 identical objects can be placed into 4 piles so that each pile has a different number of objects in it.

High School

2,985 digits were used to print the page numbers of a book. How many numbered pages are in the book?

Kantecki, C and L E Yunker. 1982. "Problem Solving for the High School Mathematics Student." *Math Monograph* 7: 49–60.

Junior High

You need to roll an even number (or even sum) to win a game. You may choose to roll either one 6-sided die or two 6-sided dice (and add the values rolled).

Which should you choose?

Elementary

A five-volume set of books is lined up on a shelf in order from left to right. Each book has exactly 100 pages. A hungry worm starts eating through the first page of the first volume, and eats her way through to the last page of the last volume. How many pages did she eat through?

Hint: Draw a picture or act it out. The correct answer is neither 250 or 500.

Adapted from
www.bettybookmark.com/p/puzzles/puzzle2.htm