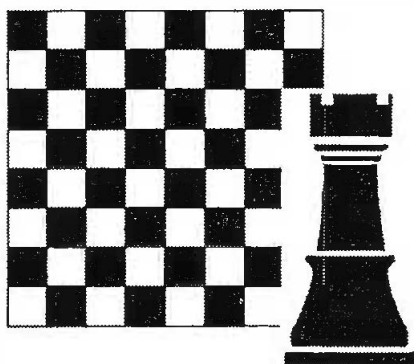


A Page of Problems

A. Craig Loewen, The University of Lethbridge

HIGH SCHOOL

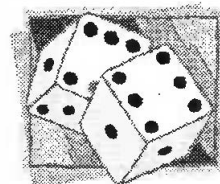
How many rectangles are there on a chessboard?



Source: Mason, J. 1985. *Thinking Mathematically*. Don Mills, Ont.: Addison-Wesley.

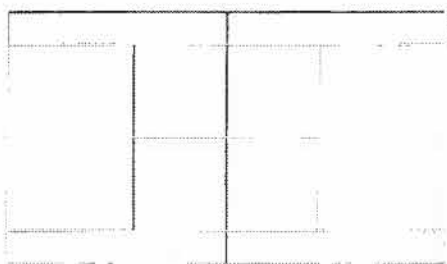
JUNIOR HIGH

Jane is playing a dice game with Frank. One die is a regular 6-sided die, the other die also has six sides, but has 3 ones and 3 sixes. The game is played by rolling your die five times and summing the values rolled. The player with the highest sum after five rolls wins. Which die should Jane choose if she wants to win?



ELEMENTARY

How many rectangles of all sizes are there on a tennis court?



Source: Loewen, A. C. 1993. *Mathematical Problem Solving in the Primary Grades*. Barrie, Ont.: Exclusive Educational Products.

HIGH SCHOOL

1000 coins are placed in a row with the "tails" side up. The first person turns every coin over. The second person turns every second coin over. The third person turns every third coin over, etc. After 1000 people, which coins will show "heads"?



Source: Kantecki, C., and L. E. Yunker. 1982. "Problem Solving for the High School Mathematics Student." *Math Monograph no. 7*.