Mathematics 414, Problem Set #10
(due by 1:00, November 17)

Problem 1. A standard type of problem uses Distance $=$ Speed$\times$Time. Make up and solve (as concretely as possible) a problem that uses another multiplicative relationship, such as Cost $=$ Quantity $\times$ Unit Price. There are many possible replacements for "Distance," such as Total Earnings, Gasoline Used, Total Calories Expended (or Consumed), Kilowatt-hours, or, boringly, Area. And surely you are more imaginative than I am. Pay attention to such things as rough numerical plausibility, and, as usual, to clarity of wording.

Problem 2. Do Problem 1 all over again, using another multiplicative relationship, or the same relationship but a structurally different problem.

Problem 3. Make up and solve a *counting* problem, staying away from telephone numbers, license plates, numbers with specified types of digits. Maybe something geometric? The problem should not be too technical. In particular, it should not assume serious acquaintance with $\binom{n}{k}$, since, in the "precalculus" stream, this is usually done in late Grade 12.