Prof. S. Brick **Math for Elem Ed II; Exam 1** **Math 202**
Summer '04 **section 101**

Print your name:

Show all of your work, and explain your reasoning.

1. The Zer family spends 40% of their income on housing. They spend 4/5 of what remains on food. Make up a pie chart with three categories *housing*, *food*, and *other*. Find both the angles and the percentages.

2. Find the equation through the point $(-1, 2)$ and parallel to $3y - x = 9$. Sketch a graph showing both lines and the point, labeling each of the two lines to indicate which is which.

3. A student club has 17 boys and 35 girls in it. A president and a vice president, both girls is to be chosen. How many different choices are possible ? A three person committee, boys or girls, is to be formed from the remaining members. How many different such committees are possible ?

4. Draw a box and whisker plot for the data $7, 12, 8, 19, 13, 14, 10, 9, 18$.

5. You decide to gamble. The game FunFlips costs $ 5 to play. The game proceeds as follows: A coin is flipped twice. No heads gets you a $ 4 payoff (still a loss overall) and 2 heads gets a $ 10 payoff, with no payoff otherwise. If you play the game 100 times, on average what do you expect will happen ?

6. How many different arrangements of the string $AAAAABBBCC$ are possible (including the one written here) ?

7. Professor Zer teaches two classes. His daytime class has 30 students and his evening class has 50 students. Both classes have to take a skills test. On the skills test, the daytime class has a mean score of 90 and the evening class has a mean score of 70. Find the mean score of all of Professor Zer's students.

8. At noon Professor Zer takes a frozen pizza out of the freezer and puts it in a preheated oven to cook. After 40 minutes, he removes it and lets it sit to cool down for 20 minutes before eating. Let $f(t)$ be the average temperature of the pizza in degrees Fahrenheit where t is time in minutes since noon. Sketch a graph of the $f(t)$ for $0 \leq t \leq 60$, labeling values on both axes.

9. A pair of dice, a red one and a white one, is rolled. Find the probability that the sum on the dice is equal to 7 given that the red one is ≥ 4.

10. Nine years ago, Buffy was half the age that Boris will be five years from now. Use algebra to express that relationship. Be explicit.

SCRATCH PAPER – will not be graded