NAME: _____ **Section: MW9-10**
SID: _____ **MW1-2**

Stat 20 FALL 2003 **Quiz 2** **Date: Oct 15, 2003**

Instructions: Answer all questions. Please show all work. You have 50 minutes.

Question 1. (*12 points*)

The Gallup polling organization asked the question "Do you approve or disapprove of the way George W. Bush is handling the situation with Iraq?" on Oct 6-8. 47% said they approved, 50% disapproved and 3% had no opinion.

(a) What is the 95% confidence interval for the proportion of people who approved of the President's handling of the situation in Iraq if 1300 people were surveyed?

(b) Can you conclude that half of the US population approved of the President's handling of the situation in Iraq? explain why or why not.

(c) Sometimes Gallup uses multiple versions of the same question with different wording. Explain why they might do this.

(d) Gallup uses random telephone dialing to carry out it polling. A fixed number of phone numbers are chosen to be polled. Explain why the poll was carried out over three days rather than on a single day.

Question 2. (*13 points*)

A clinical trial was conducted to examine the effectiveness of daily doses of aspirin in the treatment of strokes. Patients were randomized into treatment and control groups. Neither the physician nor the patient knew whether they were receiving the aspirin or a placebo tablet. After six months of treatment, the attending physicians evaluated each patient's progress as favorable or unfavorable. Of the 78 patients in the aspirin group, 63 had favorable outcomes. The control group of 77 patients had 43 patients with favorable outcomes. Let p_1 be the proportion of patients in the treatment group (aspirin) who had favorable outcomes after six months. Let p_2 be the proportion of patients in the control group (placebo) who had favorable outcomes after six months.

(a) What z^* should we use for a 98% confidence interval?

(b) Compute $\text{SE}\,(\hat{p}_1 - \hat{p}_2)$ and then the 98% confidence interval for the difference $p_1 - p_2$.

(c) Would you conclude that using aspirin helps in the treatment of strokes?

(d) Explain how blocking might be carried out in the context of this experiment. Give a brief description of how you might design this experiment (if it was to be carried out again).