Mini-Project 2: Margins of Error in Polls

Find the results of a public opinion poll conducted within the last six months. Try to pick a topic that is of personal interest to you. Good places to look are newspapers, news and financial magazines, online news services, web sites of pollsters and so on. **The information in your source must include:**

- **The sample size** (how many people actually provided responses). Sample sizes around $n = 1050$ are common. But, in the poll you select, $n$ may be as small as 500 or as large as 2500.
- **The margin of error,** often given in a footnote to a graph or table. For example, the wording might be something like “sampling error was plus or minus 3%.” For online summaries, this may be in the header.
- **The proportion (percentage) of the entire sample taking a certain position.** For example: “48% of those sampled feel that President Bush has performed 'well' or 'very well' his handling of the US economy.” The poll may investigate many issues; select only one for your project.
- **The proportion (percentage) of those sampled from a particular subpopulation taking that position.** The subpopulation might be women, Republicans, Hispanics, those over a certain age, etc. For example “42% of the 432 Democrats sampled feel that President Bush has performed 'well' or 'very well' in handling the US economy.” Results may be given for several subpopulations; select only one for your project.
- **Ideally, the sample size for this subsample will also be given** (for example 432 in the previous bullet). If not, you may assume that 50% of the overall sample size is women, or that 40% of the overall sample size is Democrats. (These are only rough guesses. If you have better ones, document and use them.) For example, if the sample size for the poll is $n = 1000$, and $n_D$ for Democrats is not given, then you may assume $n_D = (0.4)n = (0.4)(1000) = 400$. (Make it clear whether you are using an actual or assumed subsample size.)

Write a report (2-4 pages long, including documentation) about this poll, **strictly** following the outline below. Type the main parts, but it is OK to insert handwritten formulas and computations. You must include the words printed in **bold** below as section headings.

1. **Abstract:** A brief description (two or three short sentences) stating the date and purpose or topic of the poll and summarizing the relevant results. Also say who collected the information and where you found it.

2. **Methods:** (a) How was the poll conducted: phone, face-to-face interview, etc.? Phone is most common. For some online reports, you may need to look at background pages about the polling organization to find this. 
(b) What do you believe was the target population, about which the researchers wanted to draw inferences? And what do you believe was the population from which the sample was actually drawn?

3. **Findings and Margin of Error Based on the Entire Sample:** Select one of the key results of the poll. For example: “48% of those sampled feel that President Bush has performed 'well' or 'very well' in handling the US economy.” Using an appropriate formula from your text and the information you have about the poll, find the margin of error for a **95% confidence interval.** (Show formula and computation.) Compare your result with the reported margin of error. (Two possible sources of disagreement: sometimes pollsters use some **modification of simple random sampling,** which requires a slightly different formula from the one in the text; sometimes pollsters **estimate margin of error based on a population proportion of 1/2,** rather than the observed sample proportion. Usually, both of these possibilities lead to reporting a larger margin of error than you will get from the formula in the text.)

4. **Findings and Margin of Error Based on a Subsample:** Report the findings for the subsample. Use the same formula as in Part 3, but **use the subsample size and percentage results for the subsample** to find the margin of error for the subsample. (This margin error may be quite different from the one you found in part 3.)

5. **Documentation:** **From a newspaper or magazine**, provide a one-page photocopy (absolutely no originals!); **from the web,** provide a one-page printout. This documentation must show how, when, and by whom the poll was taken and the results. **It must also include the sample size and claimed margin of error—highlight or circle these numbers.** (Paste-ups of photocopies or printouts are OK if necessary to get everything on one page.)