Bonus Points for Statistics Examples

Earn up to 10 points lost on mid-term by providing 10 examples of uses of statistics that you encounter.

Requirements that Examples must meet:
1. Must go beyond reporting of descriptive statistics;
2. Can include any of the following statistical tests: smoothing, determination of distribution type, t-tests, hypothesis testing, percentiles or tolerance limits, F tests, chi square tests, regression or correlation analysis, canonical correlation analysis, cluster analysis, factor analysis, Principal Components Analysis, detection limits, confidence intervals, etc.
3. You must indicate the type of statistical test that was used, and the hypothesis that was tested (or the reason for the statistical test);

Format for Examples:
1. A brief description of the situation including the reason/hypothesis for the statistical test, the type of statistical test, the outcome of the statistical test, and the conclusion drawn from it (~ 1 paragraph per example).
2. A complete citation of the source of the example;