**Problem Statement 1:**

You take the SAT and score 1100. The mean score for the SAT is 1026 and the standard

deviation is 209. How well did you score on the test compared to the average test taker?

Step 1: Write the X-value into the z-score equation. Here the X-value is the SAT score, 1100.

z = 1100 - μ /σ

Step 2: Write the mean, μ, into the z-score equation.

z = 1100-1026/σ

Step 3: Write the standard deviation, σ into the z-score equation.

z = 1100-1026/σ = 0.354

Step 4: Calculate the answer using a calculator: (1100 – 1026) / 209 = 0.354.

This means that the score was 0.354 standard deviations above the mean.