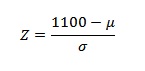
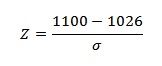
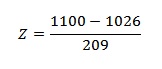
**DSM\_STATISTICS3\_Assignment18.3**

**question:**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:  **X-value into the z-score equation**. For this sample question the X-value is your SAT score, 1100.  
[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-1.jpg)

Step 2: **Put the mean, μ, into the z-score equation**.  
[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-2.jpg)

Step 3: **Write the standard deviation, σ into the z-score equation**.  
[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-3.jpg)

Step 4: **Calculate the answer**

(1100 – 1026) / 209 = .354. This means that your score was .354 std devs above the mean.

Step 5: (**Optional**) Look up your z-value in the [z-table](http://www.statisticshowto.com/tables/z-table/) to see what percentage of test-takers scored below you. A z-score of .354 is .1368 + .5000\* = .6368 or 63.68%.

\*Why add .500 to the result? The z-table shown has scores for the RIGHT of the mean. Therefore, we have to add .500 for all of the area LEFT of the mean. For more examples of when to add (or subtract) .500, see several examples in: [Area under a normal distribution curve](http://www.statisticshowto.com/probability-and-statistics/normal-distributions/find-the-area-under-a-normal-curve/).