

# Assignment 4.9

## 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?

## Solution

Here given data is,

SAT Score:  $X = 1100$

Mean = 1026

Standard Deviation = 209

Calculating Z score for X,

$$Z = (X - \text{Mean}) / (\text{Standard Deviation})$$

$$Z = (1100 - 1026) / (209)$$

$$Z = 0.354$$

It means my score was 0.354 standard deviation above the mean.

Check Z-Value in Z-Score table

We get 0.6368, It means that 63.68% students scored less than my score.