App: 18.3 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.

Sol:

$$z = \frac{x - \mu}{\sigma}$$

$x = 1100, \quad \mu = 1026, \quad \sigma = 209$

$$z = \frac{1100 - 1026}{209} = 0.354$$

This means that my score was 0.354 standard deviation above the mean.

from z table

$$z(0.354) \approx 0.64 = 64\%$$

Thus we can conclude that 64% of test takers are below me.