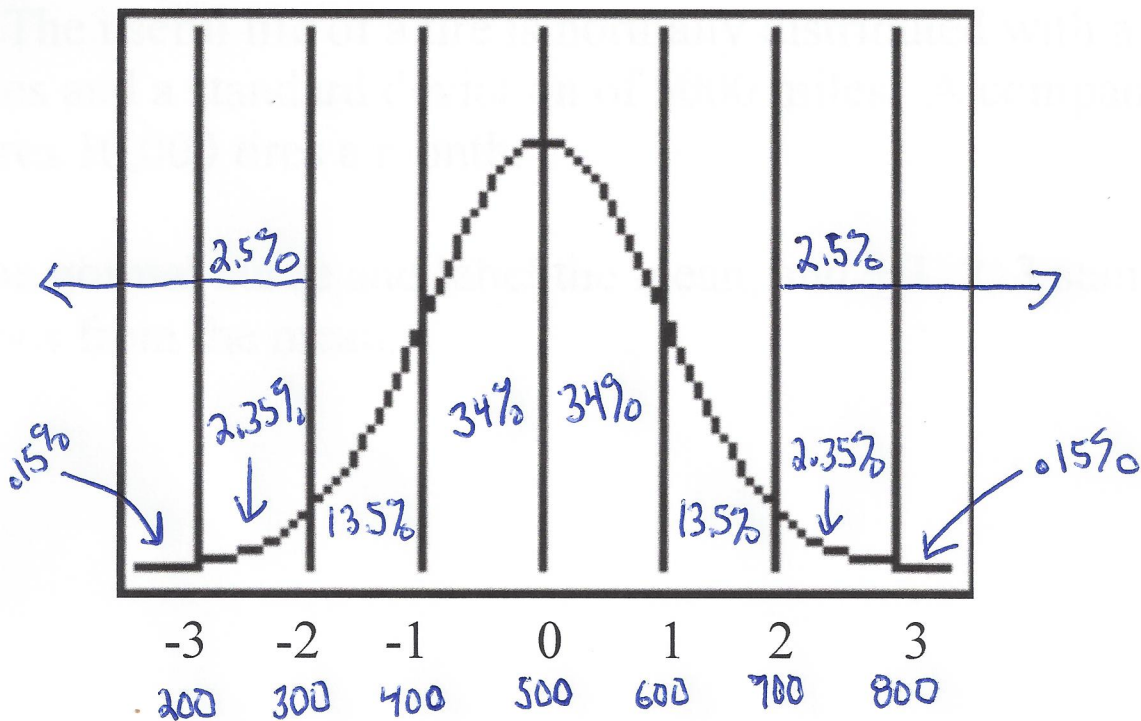


$$68 - 95 = 99.7$$



Example: The math scores on the SAT are approximately normally distributed with a mean of 500 and a standard deviation of 100. What percent of students score

- a) between 400 and 600? $34 + 34 = 68\%$
- b) between 500 and 700? $34 + 13.5 = 47.5\%$
- c) greater than 700? 2.5%
- d) less than 600? $50\% + 34\% = 84\%$

Example: The amount of coffee dispensed from a vending machine is normally distributed with a mean of 10.50 oz. and a standard deviation of 0.75 oz.

$$9.75 \text{ oz} \text{ TO } 11.25 \text{ oz} \leftarrow$$

$$(10.5 - 0.75) \quad (10.50 + 0.75)$$

- a) 68% of the amount of coffee dispensed falls within what range?
- b) About what percent of the time will the machine overflow a 12 oz cup? 2.5%