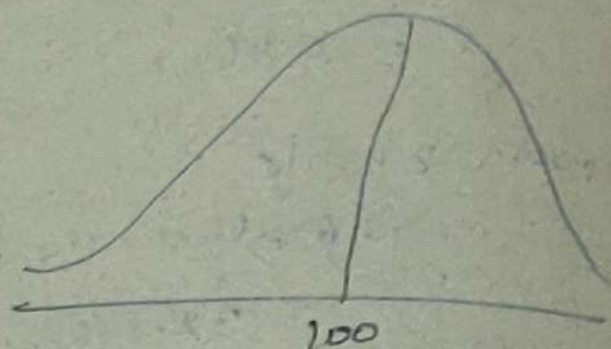


* In India the average IQ is 100, with a standard deviation of 15. What is the percentage of people would you expect to have an IQ lower than 85?

- i. Lower than 85
 - ii. Higher than 85
 - iii. Between 85 to 100
- $\mu = 100$ $\sigma = 15$



i. Z-score = $\frac{x_i - \mu}{\sigma}$

$$= \frac{85 - 100}{15} = \frac{-15}{15} = -1$$

Z-table \rightarrow 0.15866

i. Area of body = Area of tail

$$1 - 0.15866 = 0.84134$$

84%

ii. Z-score = $\frac{x_i - \mu}{\sigma} = \frac{85 - 100}{15} = \frac{-15}{15} = -1$

$$1 - 0.15866 = 0.84134$$

84%

iii. Between 85 to 100

$$Z = \frac{85 - 100}{15} = \frac{-15}{15} = -1$$

$$1 - 0.15866 = 0.84134$$

84%

$$Z = \frac{100 - 100}{15} = \frac{0}{15} = 0$$

Z-table 1 - 0.5000

50%

$$84 - 50 = 34\%$$

B) Between 100 to 125

$$Z_{score} = \frac{100 - 100}{15} = \frac{0}{15} = 0$$

$$1 - 0.5000 = 0.50$$

50%

$$Z_{score} = \frac{125 - 100}{15} = \frac{25}{15} = 1.66$$

$$1 - 0.95154 = 0.04846$$

4.8%

$$50 - 4.8 = 45.2\%$$