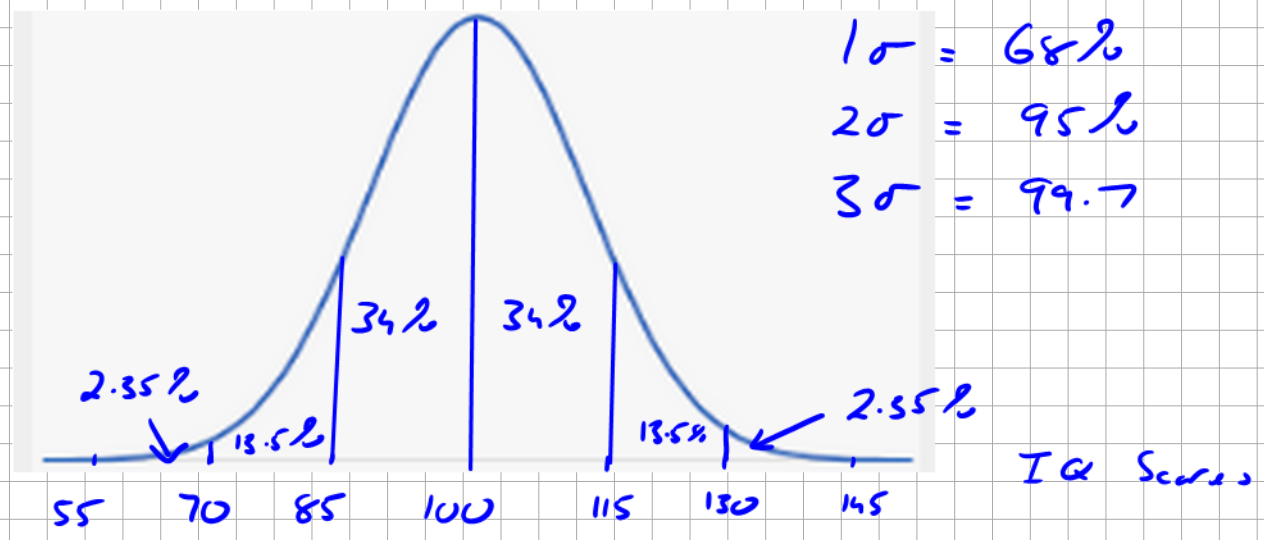


Fact ^{z-scores}

$n \geq 30$

$IQ \Rightarrow \mu = 100 \quad \sigma = 15$

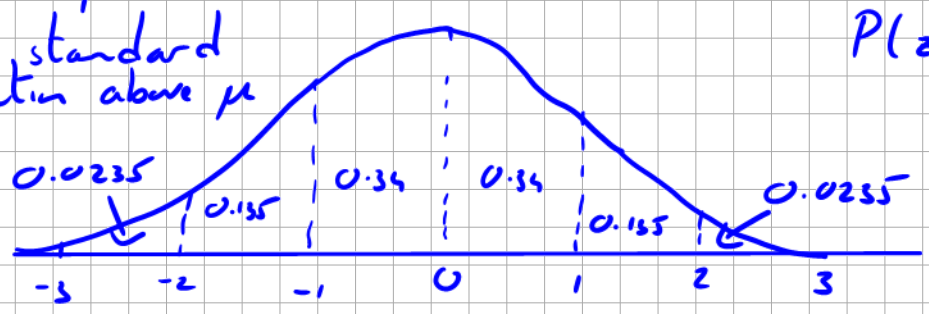
No of people
Raw data



$z=0 \Rightarrow \text{on } \mu$
 $z=1 \Rightarrow 1 \text{ standard deviation above } \mu$

$P(z \leq 1) = 0.84$

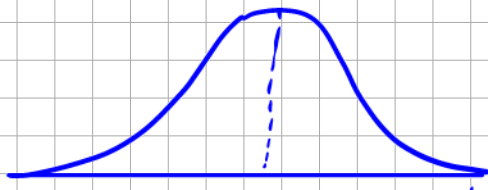
z-score



$P(z \leq 0) = 0.5$

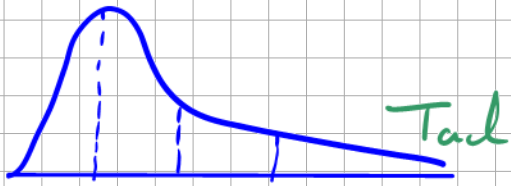
$z = \frac{x - \mu}{\sigma}$

Tables



Normal = standard

Mean = Mode = Median.



Mode Median Mean

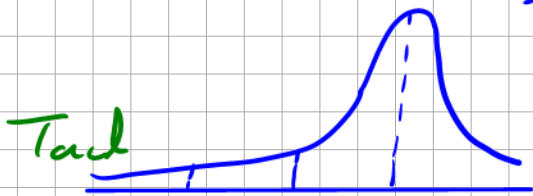
Tail

Family size. (2, 2, 2, 6)

Mean > Median > Mode
(Middle)

Tailing to right

⇒ Right skew or positive skew
Age of reading glasses



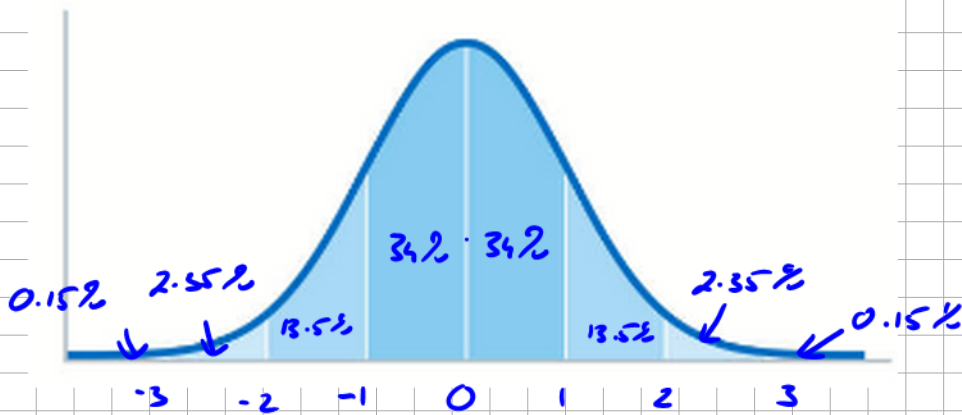
Mean Median Mode

Tail

Mean < median < mode
Tailing to left

⇒ Left skew or negative skew.
(30, 50, 50, 50)

Z - scores. = Empirical Rule EKKER



Standard bell curve.

Z scores.

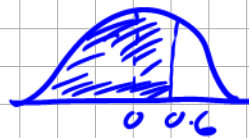
$$z = 0 = x = \mu$$

- 1σ = 68%
- 2σ = 95%
- 3σ = 99.7%

} Empirical Rule implies at mean
z score of 0

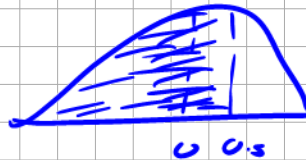
$$P(z \leq 0.6)$$

$$= 0.7257$$



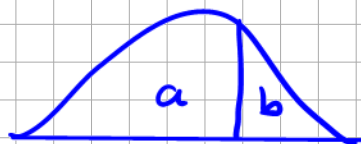
$$P(z \leq 0.5)$$

$$= 0.6915$$



$$P(z \leq 1.5)$$

$$0.9332$$



$$a + b = 1$$

This is probability under the curve