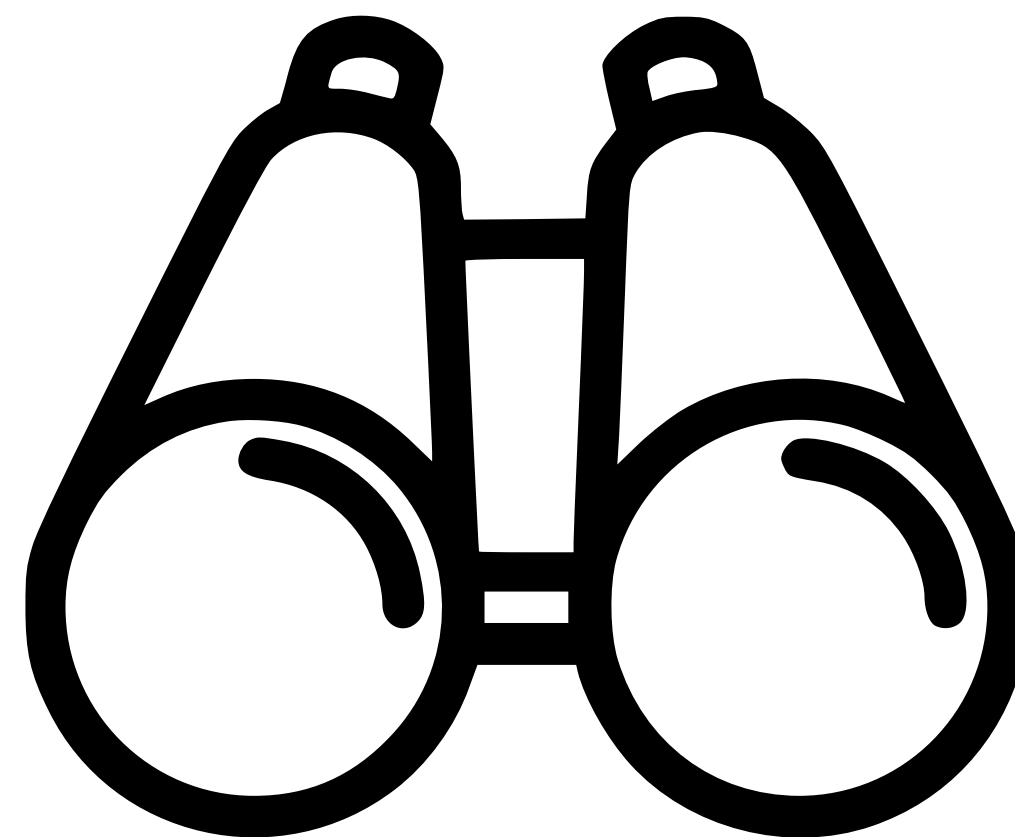




Introdução à Estatística



Estatística Descritiva

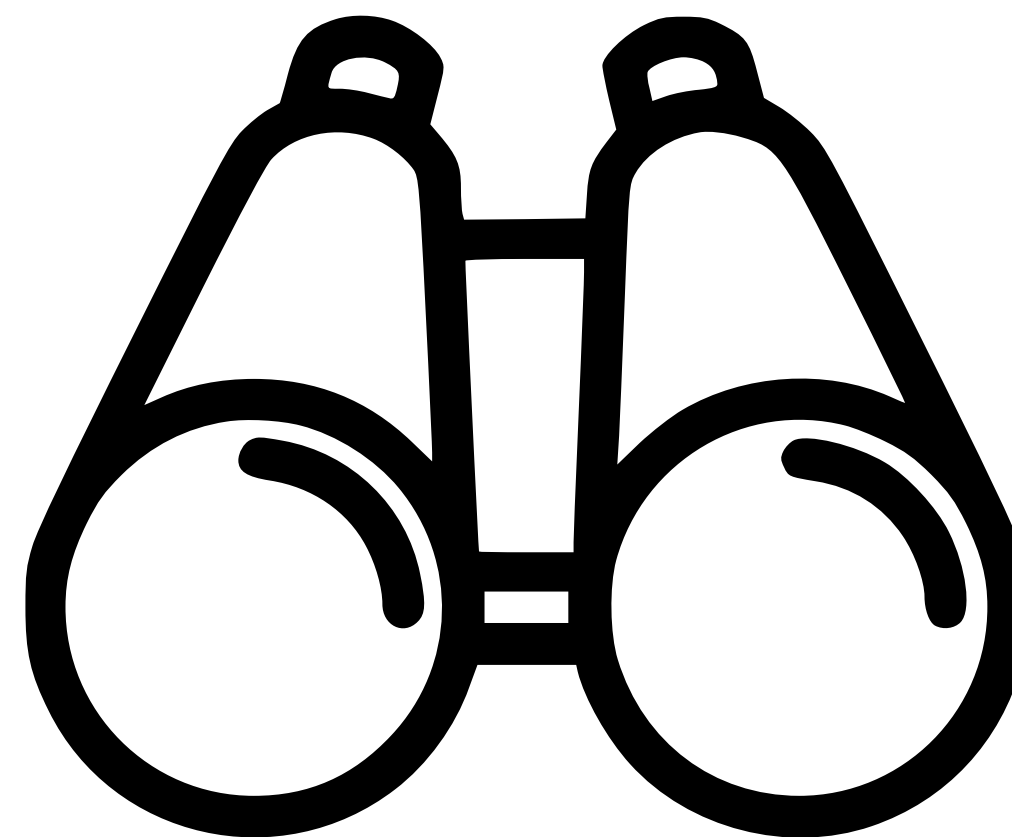
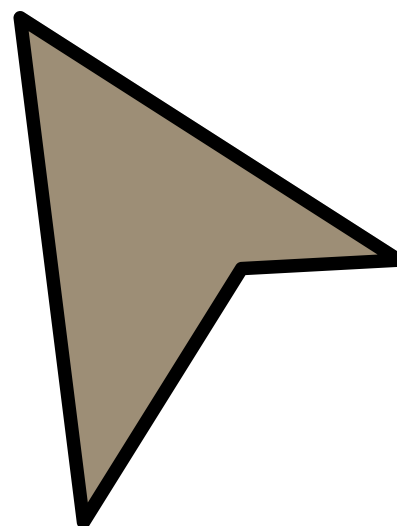


Estatística Inferencial



Estatística Descritiva

- **Univariada**
- **Bivariada**
- **Multivariada**



Estatística Inferencial

Medidas de Tendência Central

Melhor valor para representar seus dados.

Média, Mediana, Moda

Média Harmônica, média geométrica

10	31	17	21	25	17	12
----	----	----	----	----	----	----

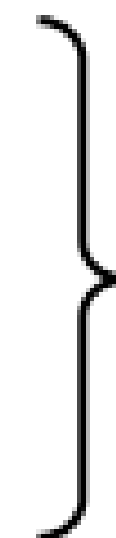
10	31	17	21	25	17	12	1000
----	----	----	----	----	----	----	------



Média

10	12	17	17	21	25	31
----	----	----	----	----	----	----

10	12	17	17	21	25	31	1000
----	----	----	----	----	----	----	------



Mediana

10	31	17	21	25	17	12
----	----	----	----	----	----	----

$$= \frac{10 + 31 + 17 + 21 + 25 + 17 + 12}{7}$$

10	31	17	21	25	17	12	1000
----	----	----	----	----	----	----	------

$$= \frac{10 + 31 + 17 + 21 + 25 + 17 + 12 + 1000}{8}$$

$$= 141,625$$

10	12	17	17	21	25	31
----	----	----	----	----	----	----

$$= 17$$

10	12	17	17	21	25	31	1000
----	----	----	----	----	----	----	------

$$= \frac{17 + 21}{2} = 19$$

Média

$$\bar{x} = \sum \frac{x_i}{n}$$

Mediana

- ◆ Elemento que está no centro dos dados, ou seja, o elemento que o divide ao meio.

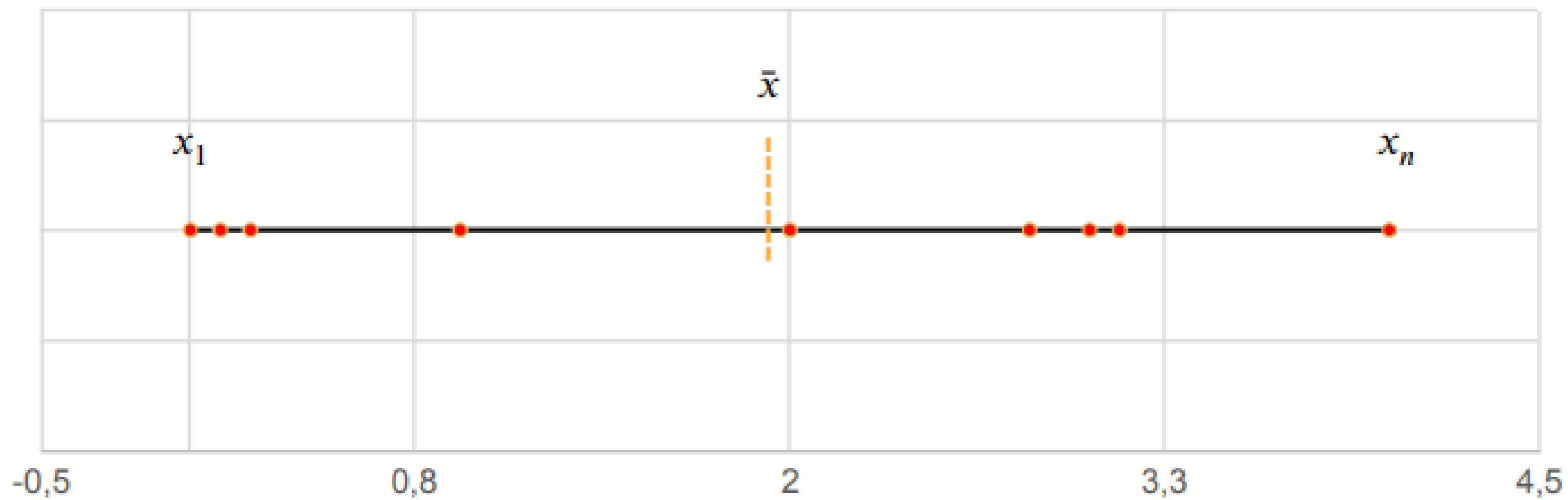
Moda

- ◆ Valor que detém o maior número de observações, ou seja, o valor ou valores mais frequentes.

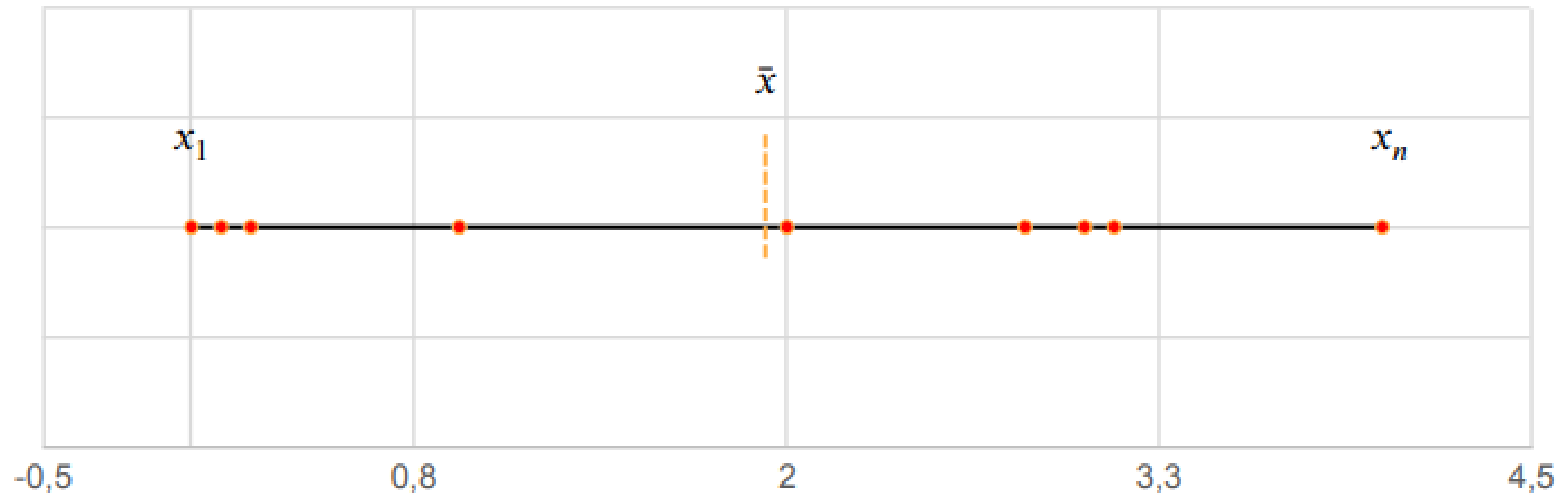
Medidas de Dispersão

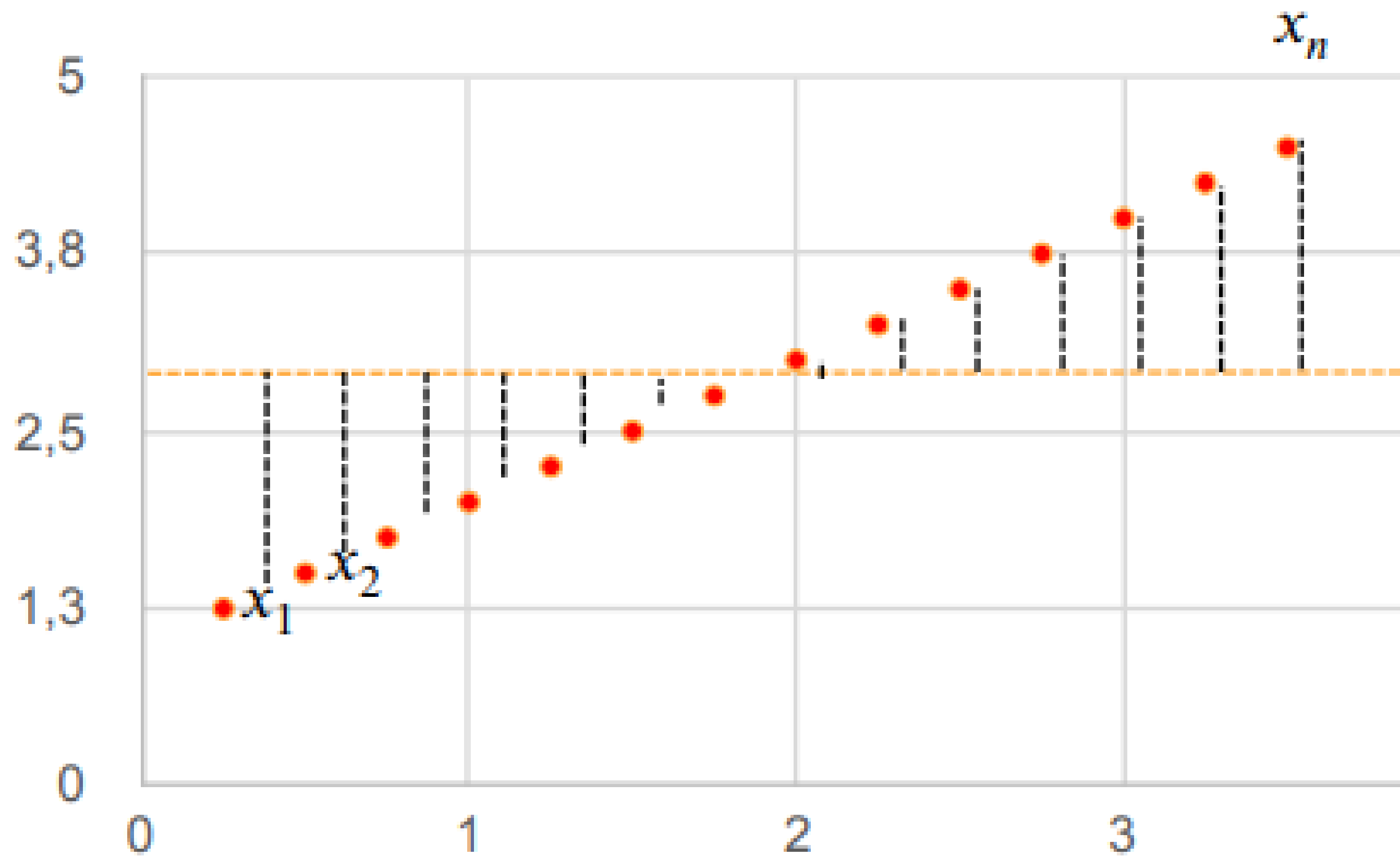
Parâmetros usados para determinar o grau de variabilidade dos dados

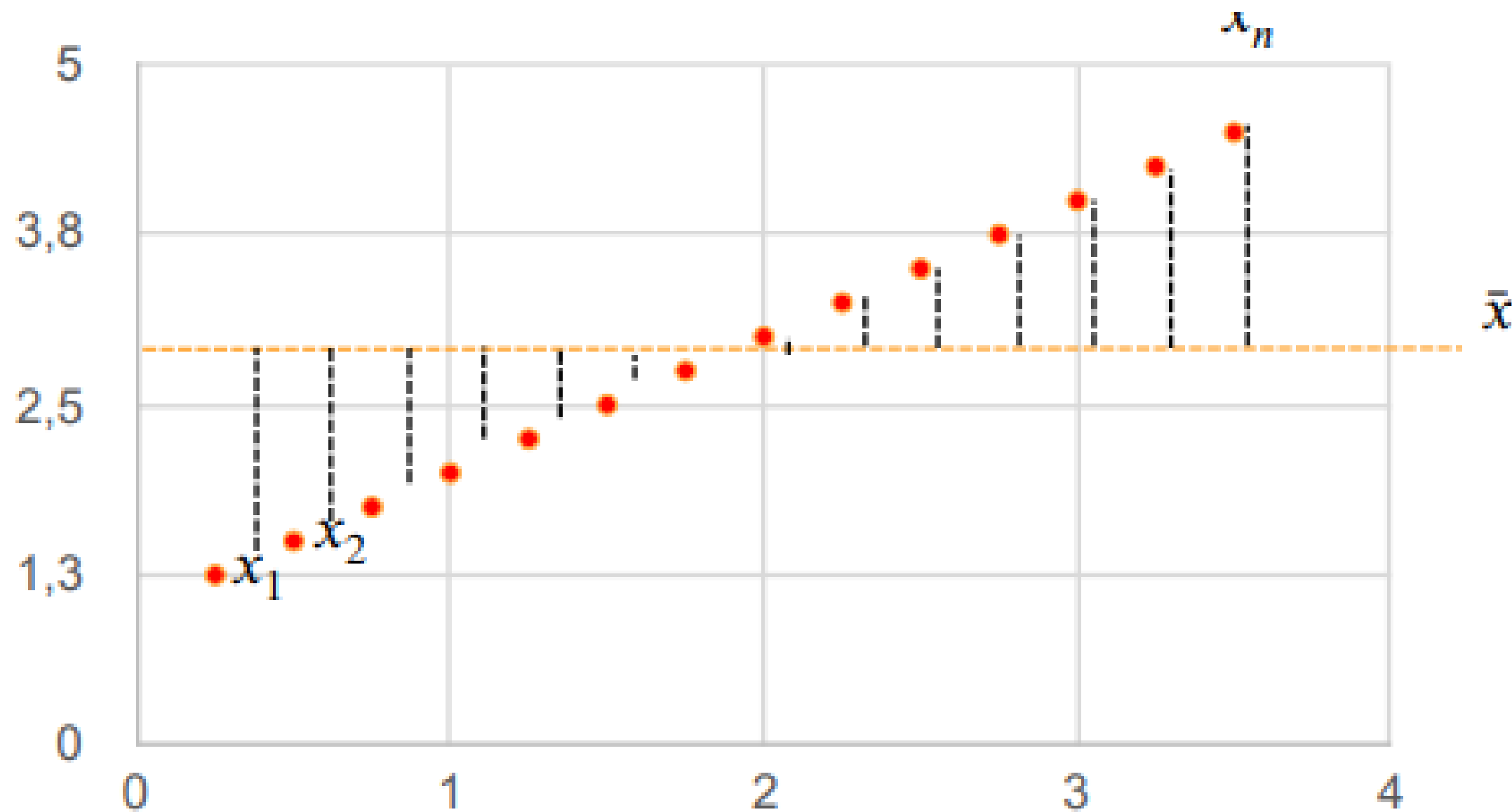
Amplitude, variância, desvio padrão e amplitude interquartil



$$\text{Range} = X_{\max} - X_{\min}$$







$$x_i - \bar{x}$$

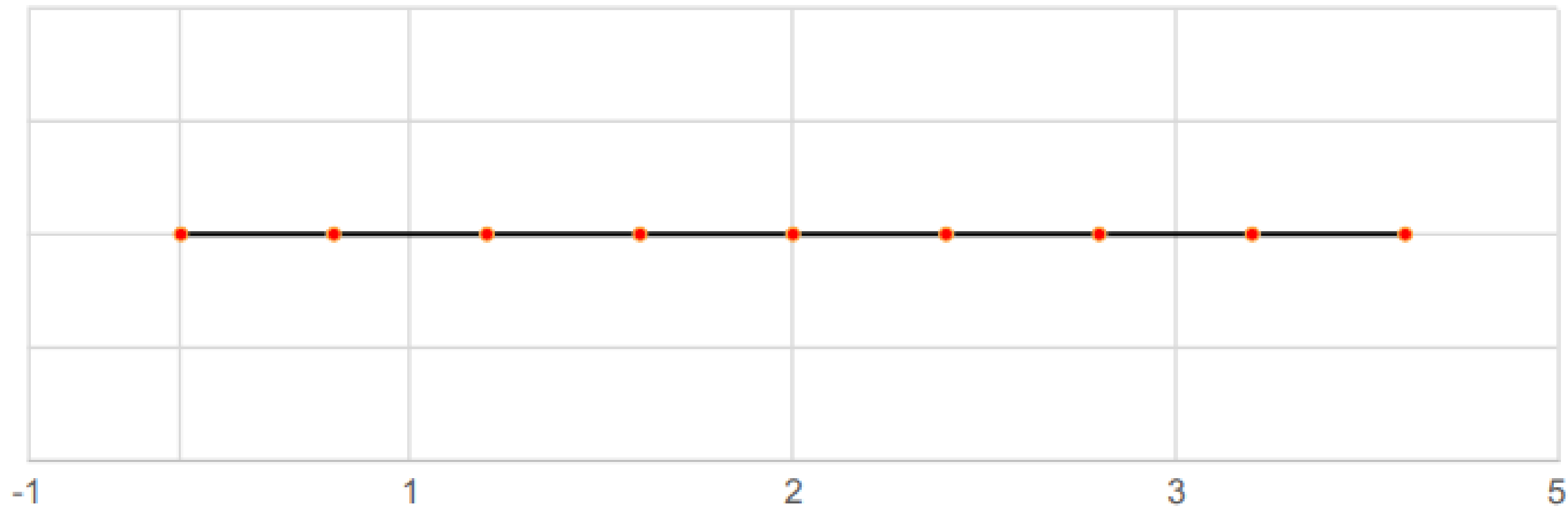
$$(x_i - \bar{x})^2$$

$$\sum \frac{(x_i - \bar{x})^2}{n}$$

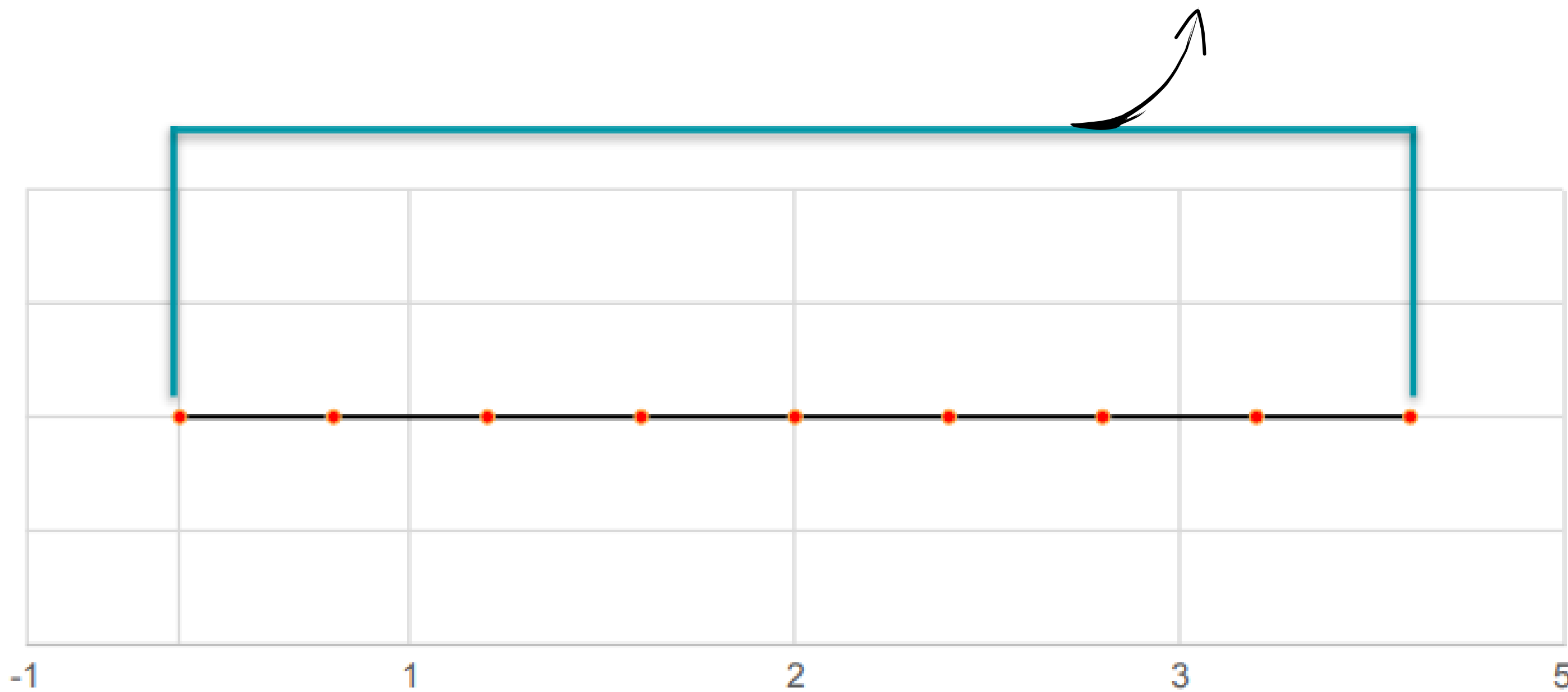
$$\text{Variância} = \sum \frac{(x_i - \bar{x})^2}{n - 1}$$

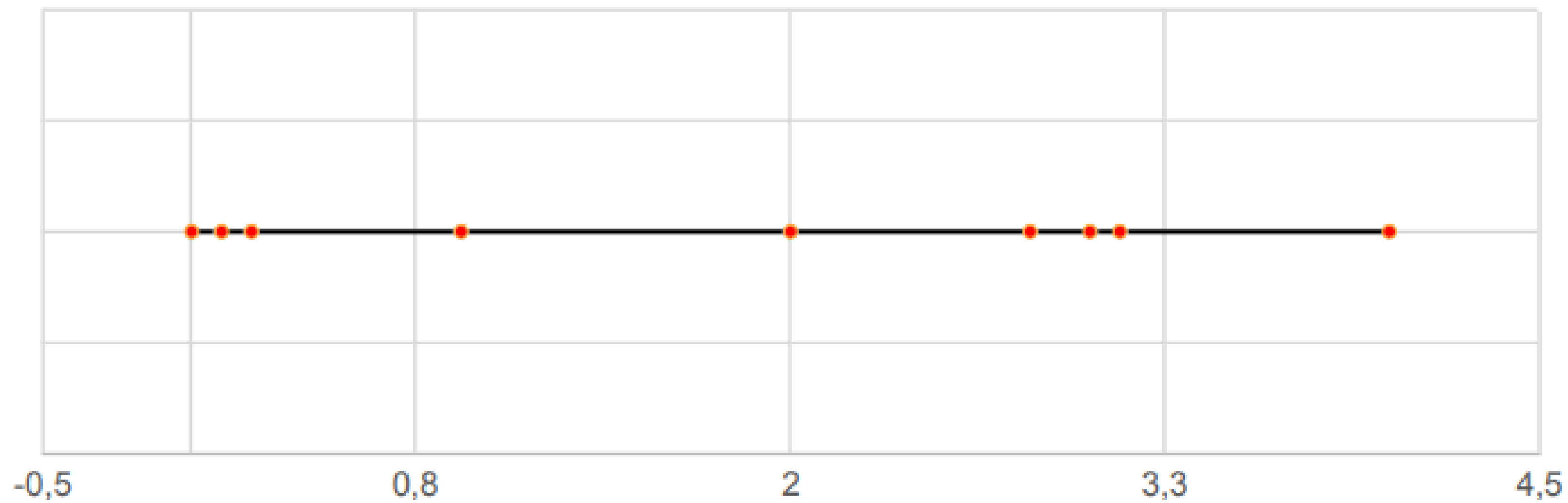
Distribuição Gaussiana

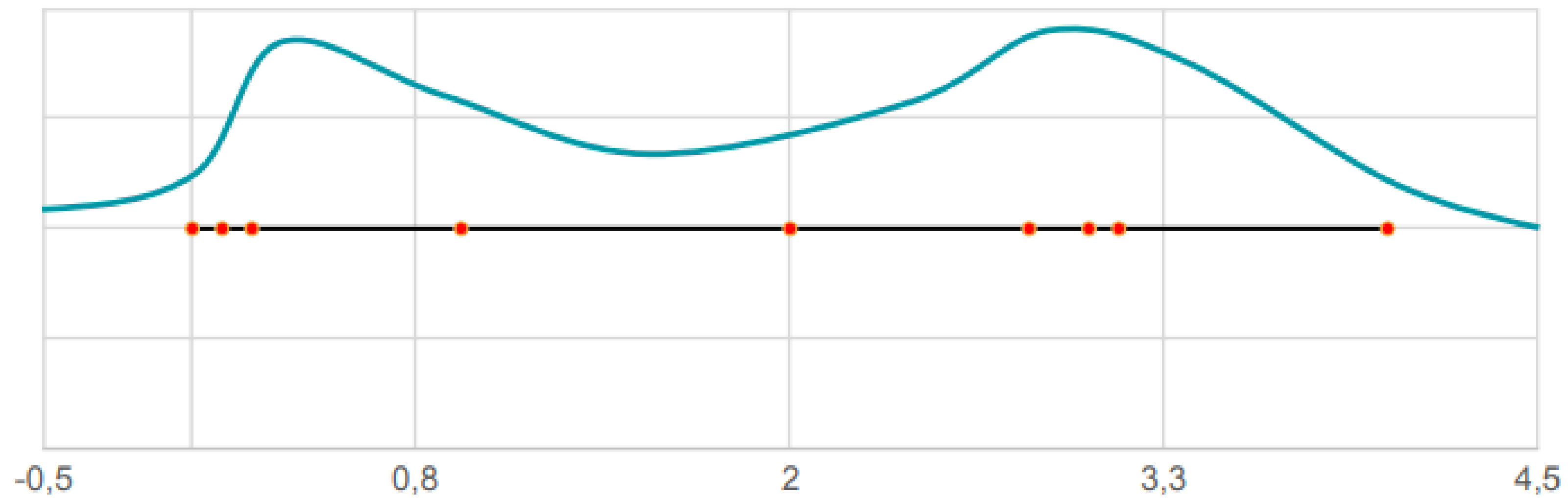
Distribuição é a fórmula que diz quão provável um determinado valor pode ocorrer nos dados.

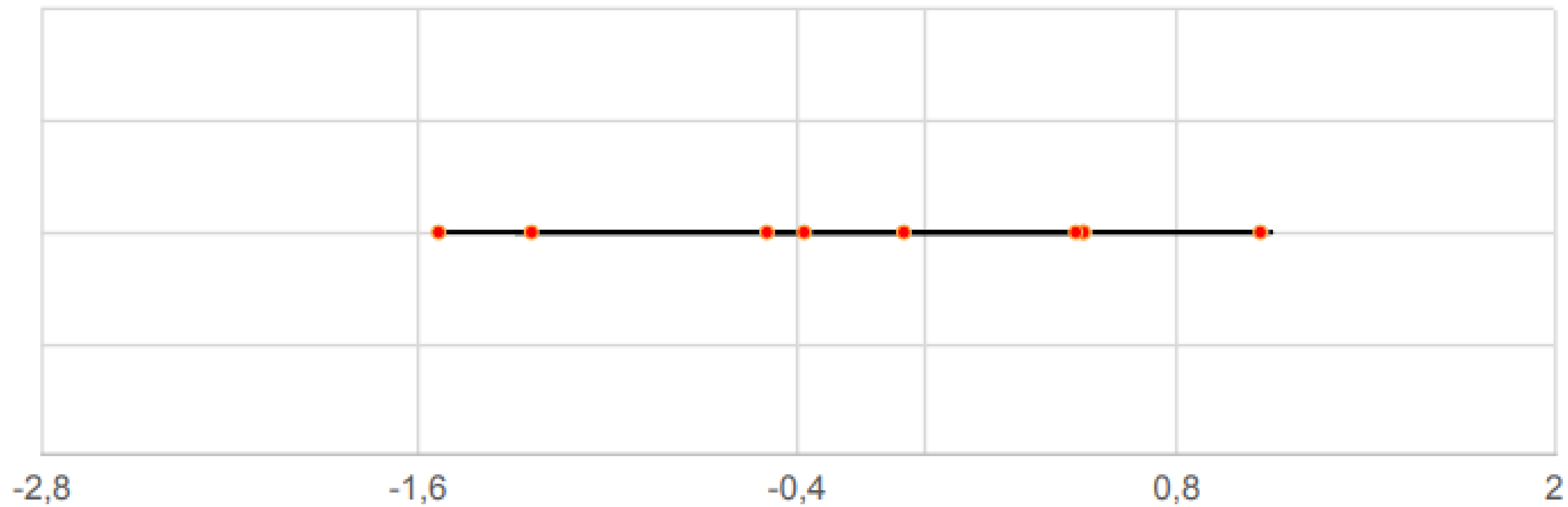


Valores são
igualmente
prováveis

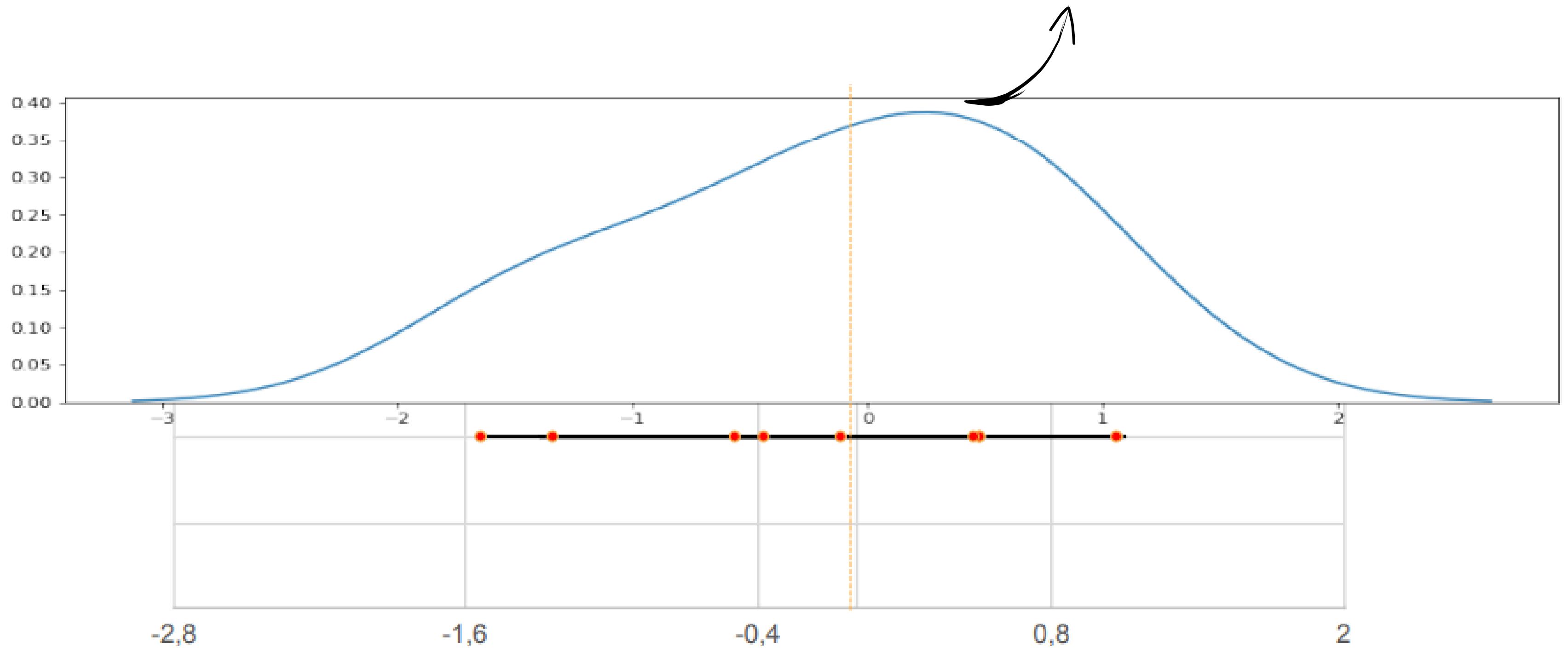




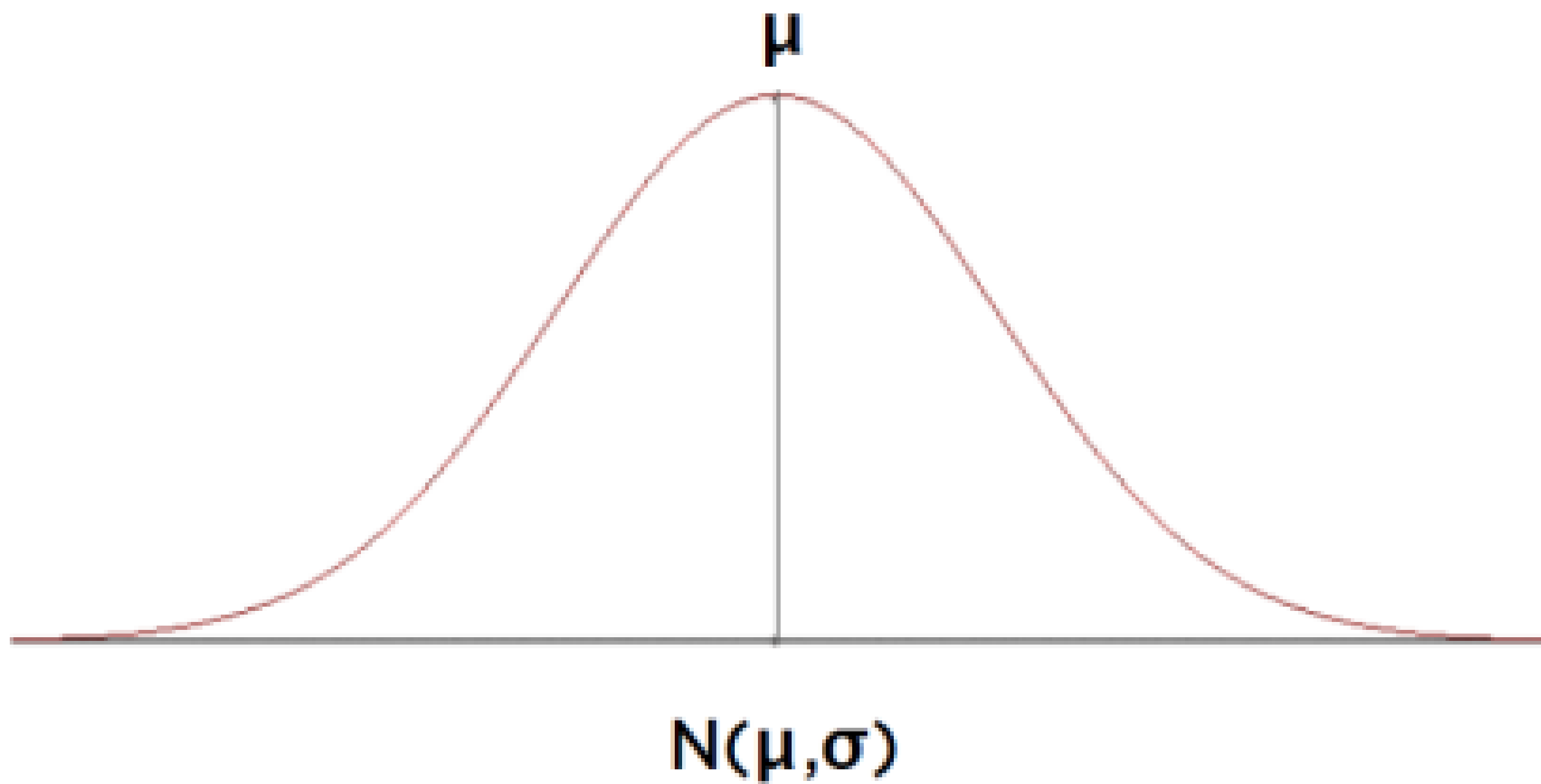


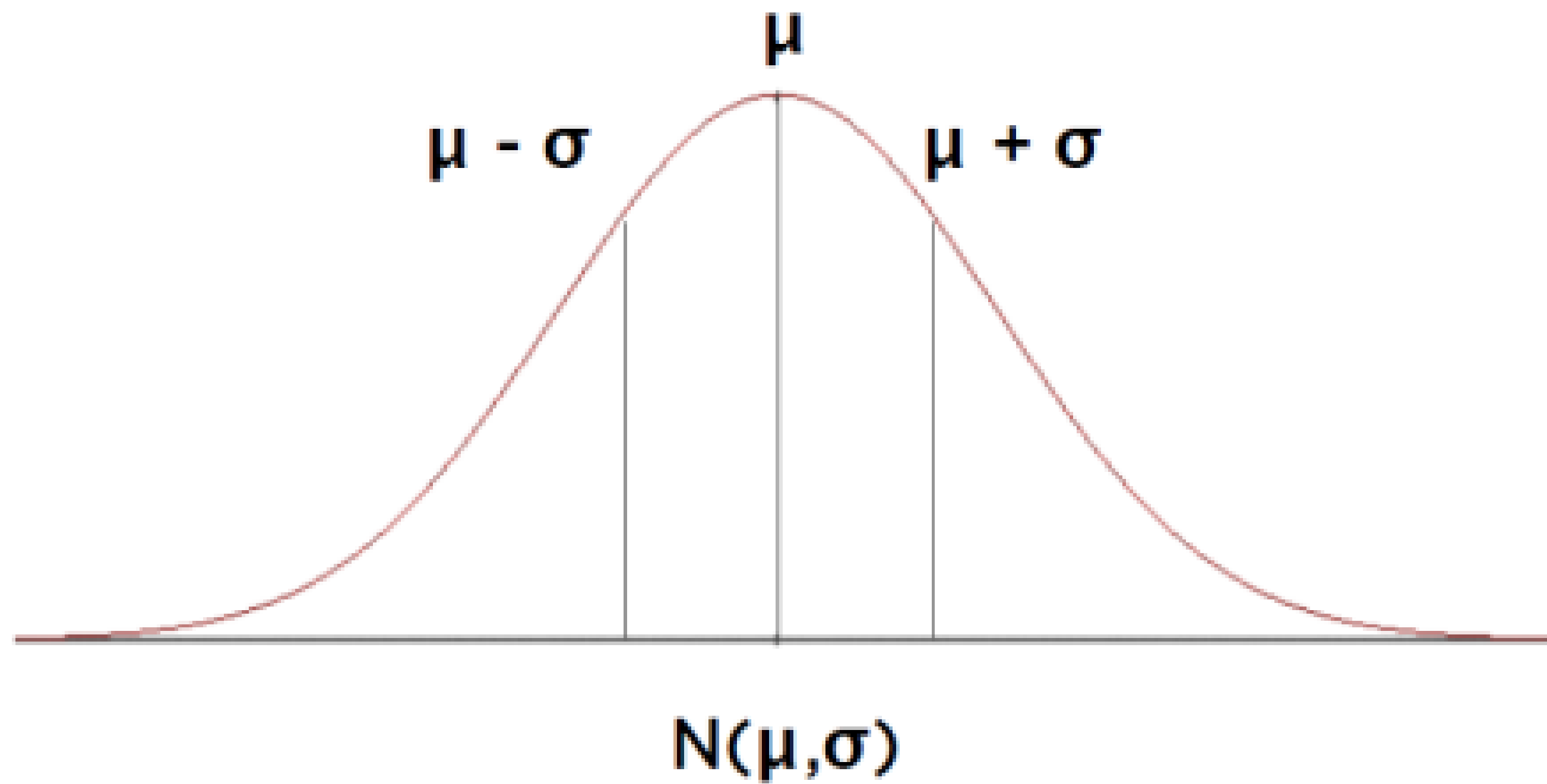


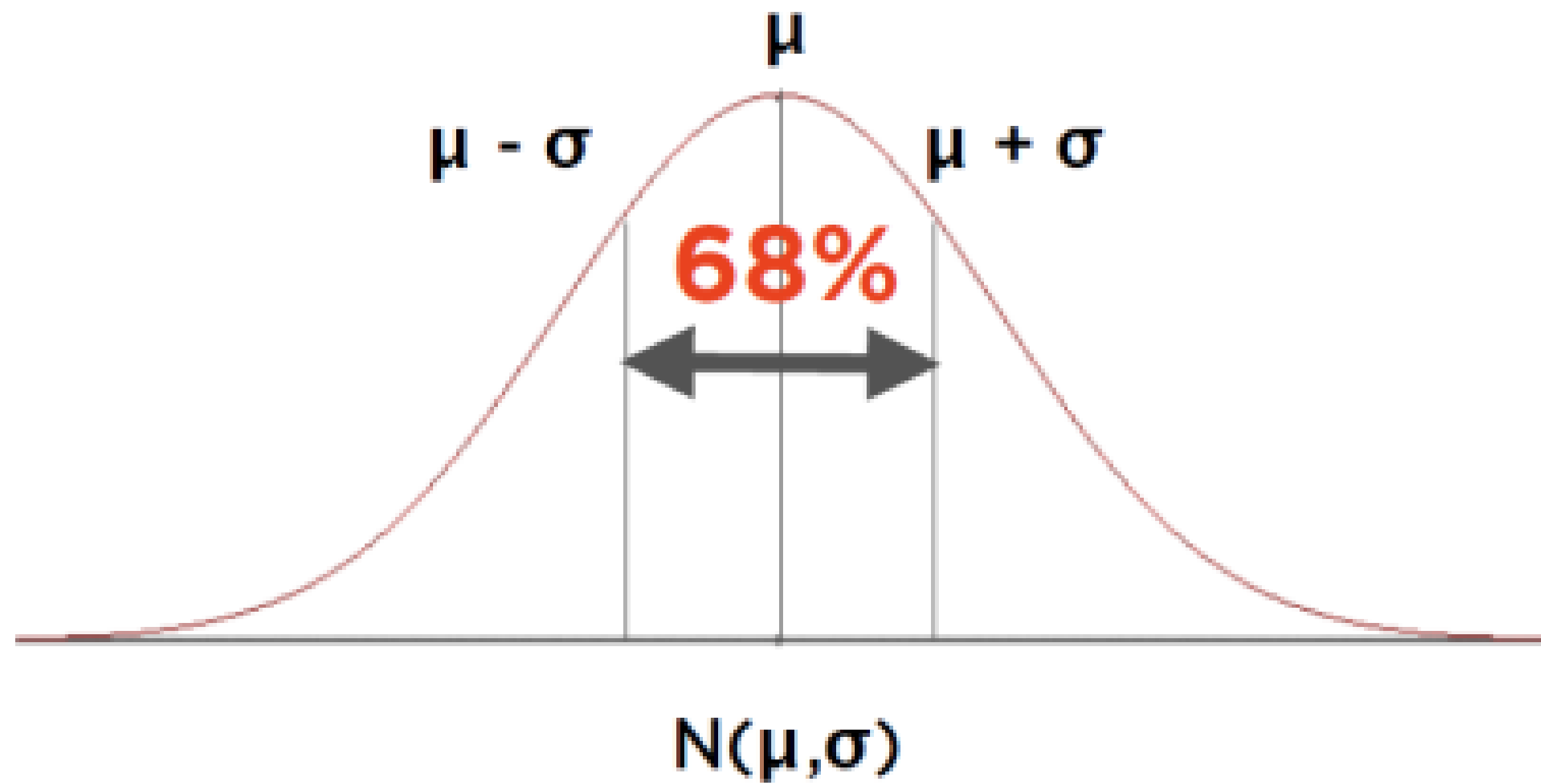
Valores próximos da média são mais prováveis

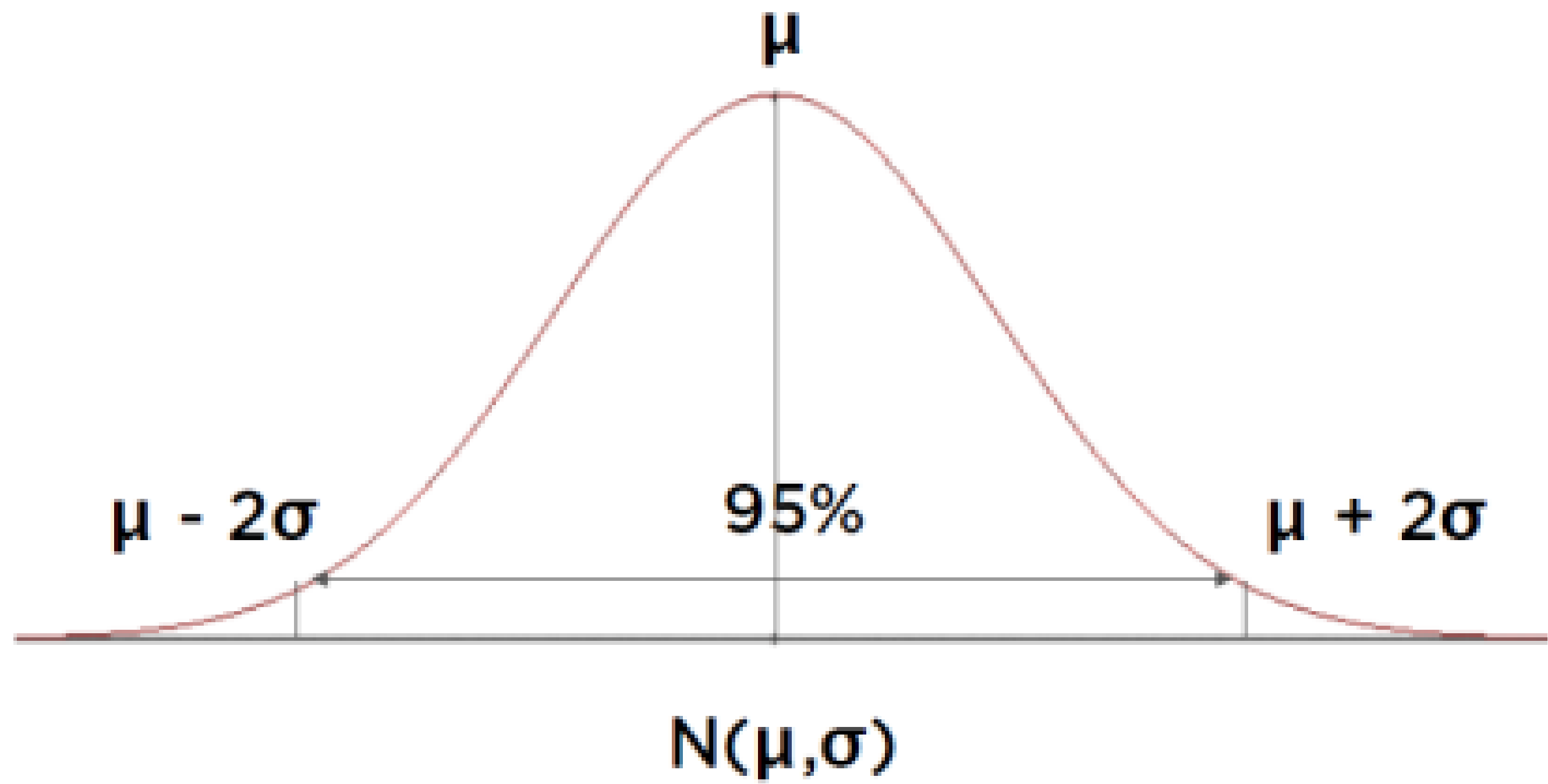


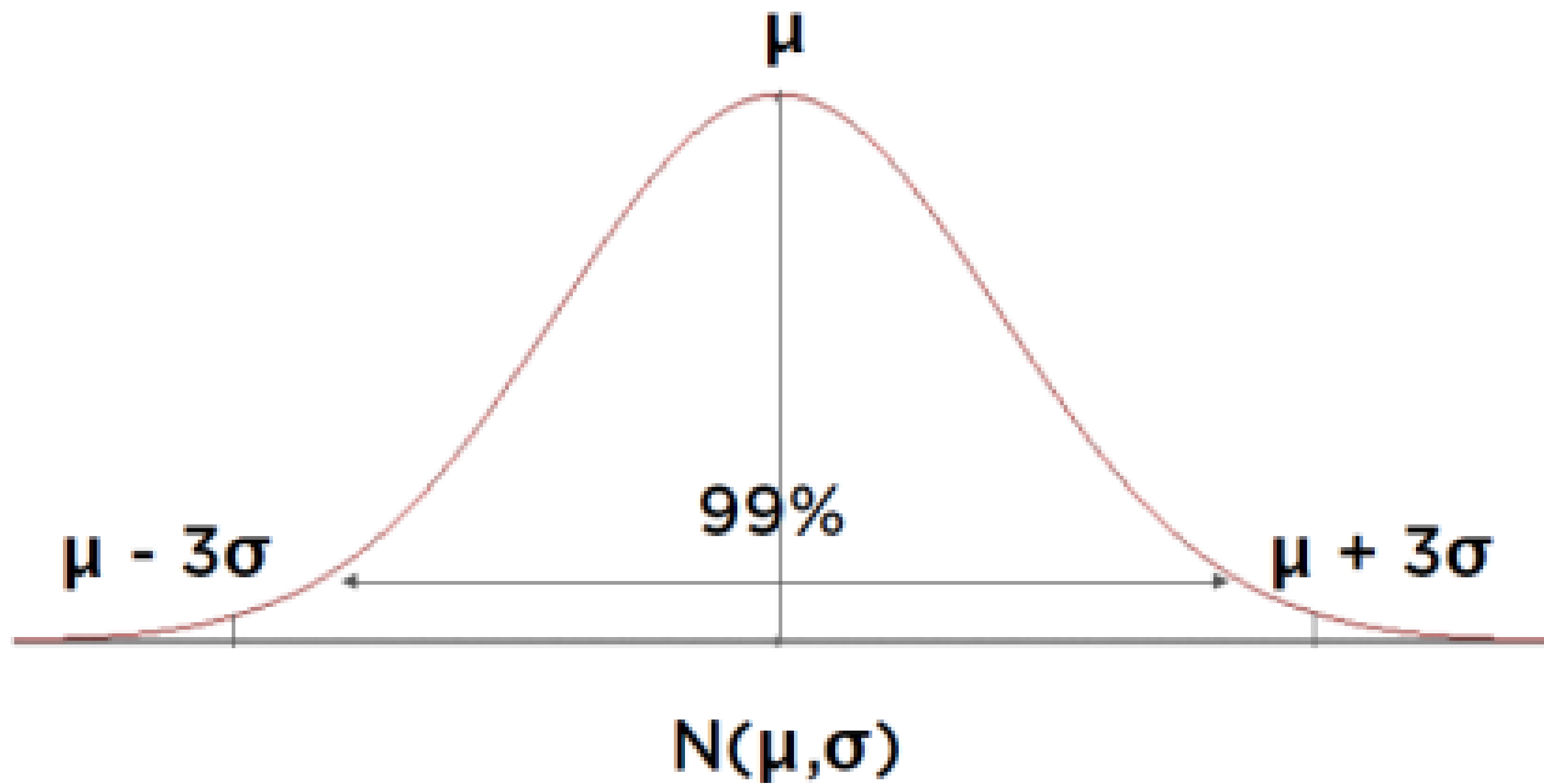
<https://galtonboard.com/probabilityexamplesinlife>











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