

Percentiles + Percentile Rank (R_{100})

- Position out of 100

The percentile (R_{100}) is the number that indicates the percentage of data **less than or equal to** the value being considered.

ex. 92nd percentile, 25th percentile...

* The higher the percentile, the better it is. (The more people you beat)

Formula: (To find the percentile)

$$R_{100} = \frac{(\text{\# of data less than } x) + \left(\frac{\text{\# of data equal to } x}{2} \right)}{\text{Total \# of Data}} \times 100$$

* Always round your answer **up** to the nearest whole number! Ex. 89.1 \rightarrow 90th percentile
53.6 \rightarrow 54th percentile

Example: Given the following data, what percentile rank does 72 have?

18,...,70, 71, 71, 72, 72, 72, 72, 73, 73,...,92

164 data
4
82 data

$$\begin{aligned}
 R_{100} &= \frac{164 + \frac{4}{2}}{250} \times 100 \\
 &= \frac{166}{250} \times 100 \\
 &= 66.4 \Rightarrow \underline{\underline{67^{\text{th}}}} \text{ percentile}
 \end{aligned}$$