**Percentiles**

Percentile is a measure of position

It ranks a data value as a position out of 100, hence **Percent**ile.

It tells you what percentage of the population is equal to or below a data value.

*Example:*

On the provincial math exam, your percentile rank is 71 (this will appear on your official transcript). It means you did equal to or better than 71% of the province who wrote that exam.

**Finding the Percentile:**

Percentile of x = ( # of data values less than x + $\frac{(\# of data values equal to x)}{2}$ )

× 100

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 total # of data values

NOTE – if you get a decimal, ALWAYS ROUND UP

A distribution containing 158 values

6, 7, 8, ...., 19, 21, 21, 21, 24, ....., 50, 51, 52, 55, 56, 56, 57, 58, ...., 89, 89, 90

36 values

41 values

61 values

What is the percentile of the value 56

Percentile of 56 = (114 + $\frac{2}{2}$ ) Percentile of 56 = 114 + 1

Percentile of 56 = 73

× 100

\_\_\_\_\_\_\_\_
 158

× 100

\_\_\_\_\_\_\_\_
 158

**Finding the data value when the percentile is known:**

$\frac{Percentile}{100}$ × total number of values

\*This formula will give you the POSITION of the data value, always ROUND DOWN.

*Example:*

Which value is the 75th percentile

$\frac{75}{100}$ × 158 = 118.5 = 118th number

Find the 118th position in the data group and it will be 58 in this case!