

# **Descriptive Statistics Review**

# Descriptive Measures

Central Tendency

Variation

Relative Standing

# Central Tendency

Mean

Median

Mode

# Mean

Feature 1

3

5

5

1

7

2

6

7

0

4

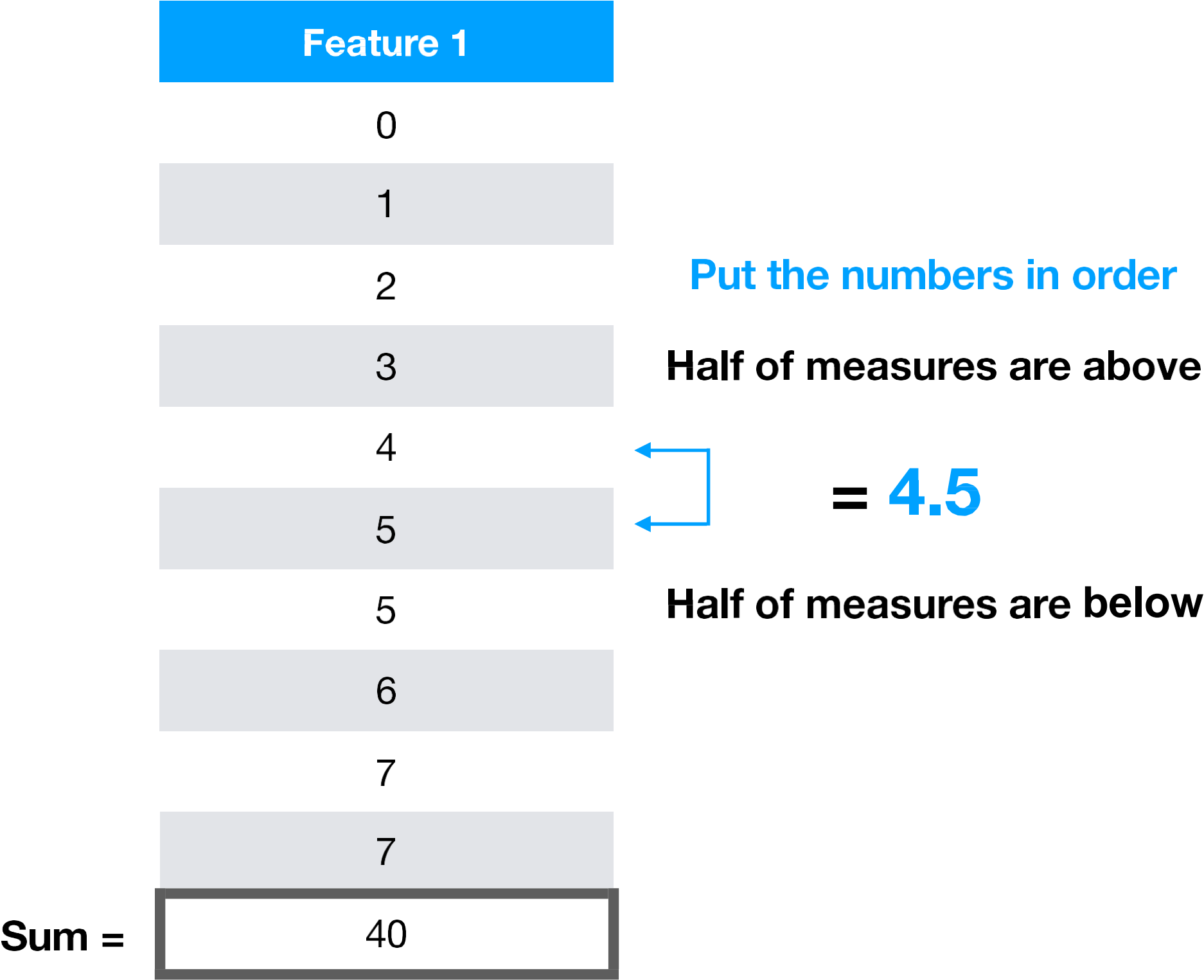
40

[3, 5, 5, 1, 7, 2, 6, 7, 0, 4]

Sum =

$$40/10 = 4$$

# Median



# Mode

Feature 1

0

1

2

3

4

5

5

6

7

7

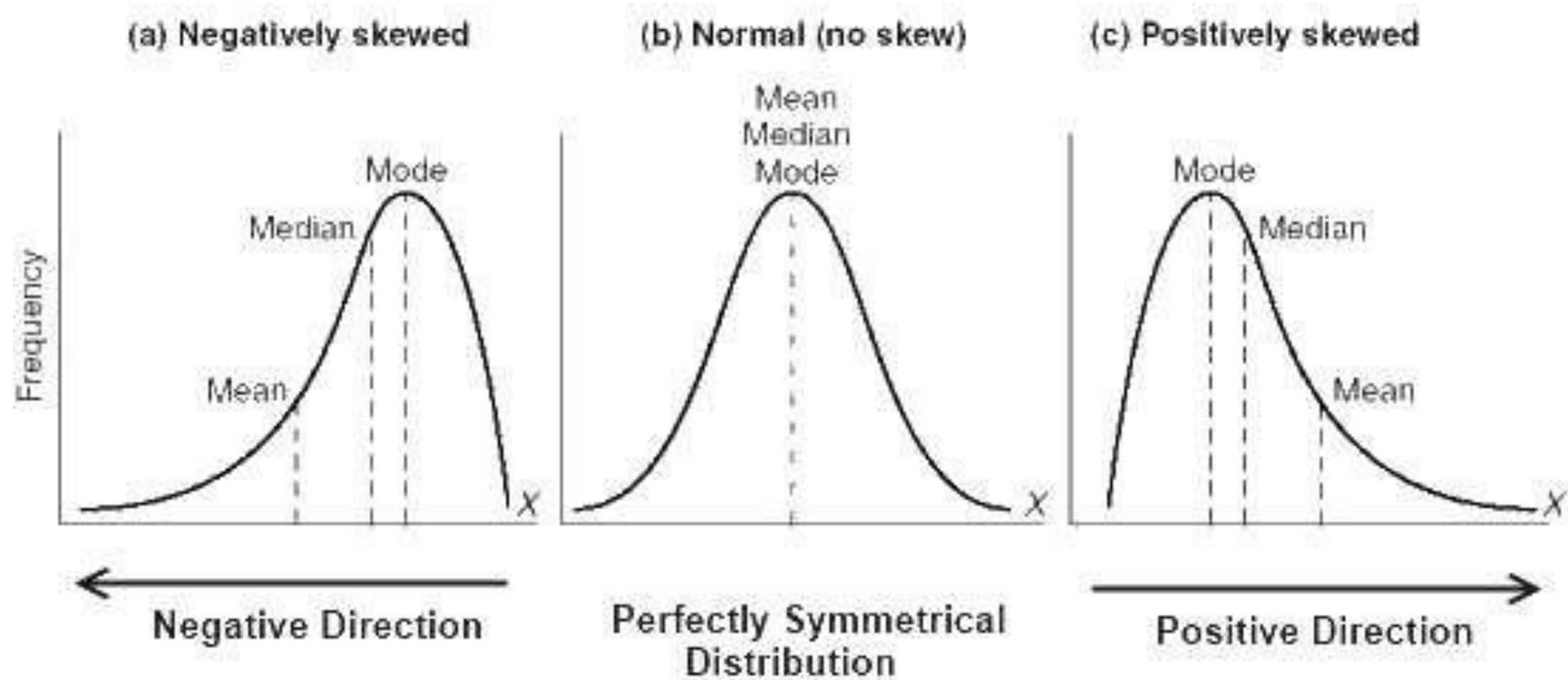
Sum =

40

Number(s) which appears  
most often

**= 5 and 7**





# Variation

Variance

Standard Deviation

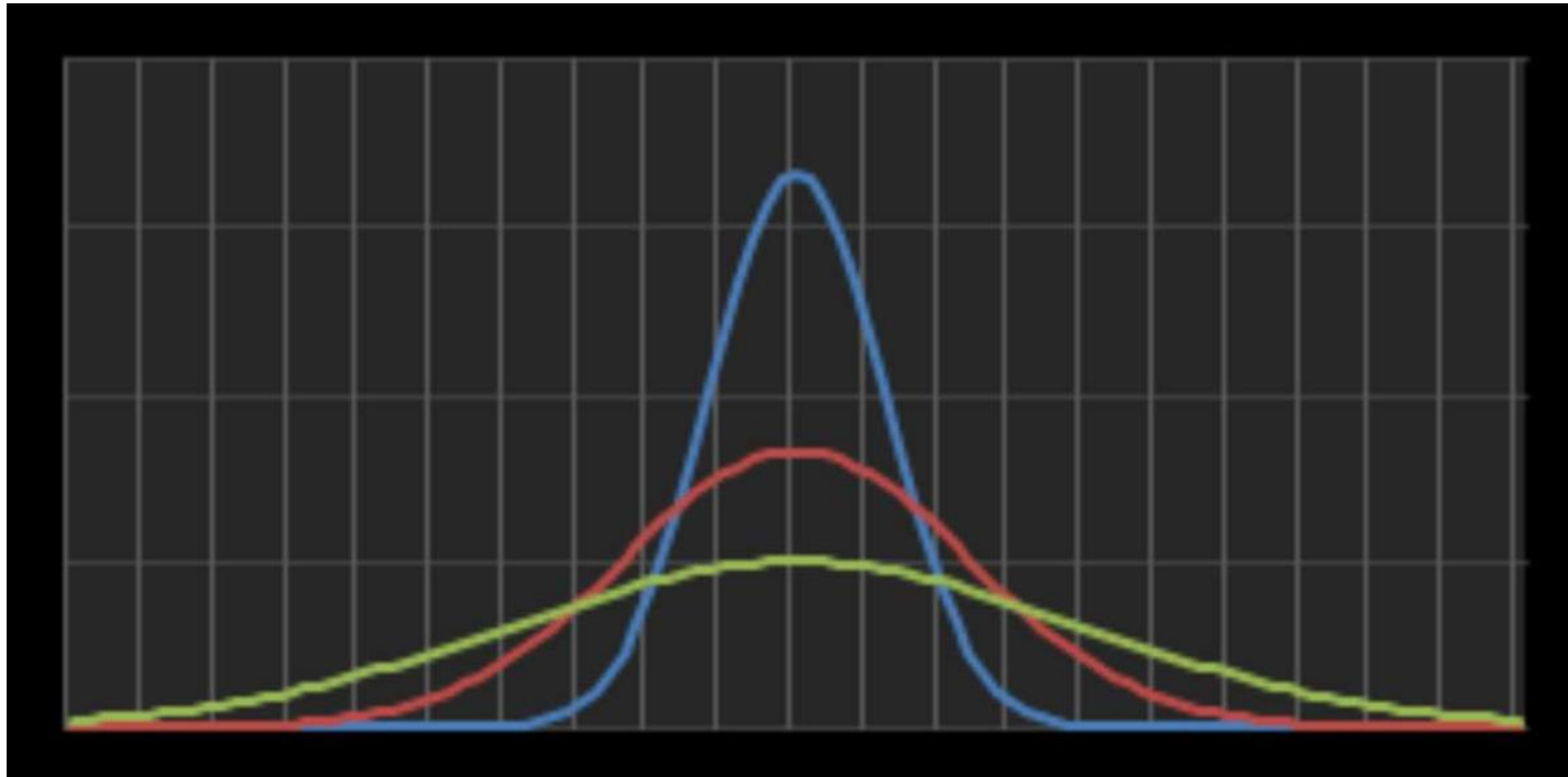
Range

Quartiles

Interquartile Range



# The spread of the data



# Variance

Feature 1	Deviations	Squared Deviations
0	-4	16
1	-3	9
2	-2	4
3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

Mean = 4

54/9 = 6

# Standard Deviation

Feature 1	Deviations	Squared Deviations
0	-4	16
1	-3	9
2	-2	4
3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

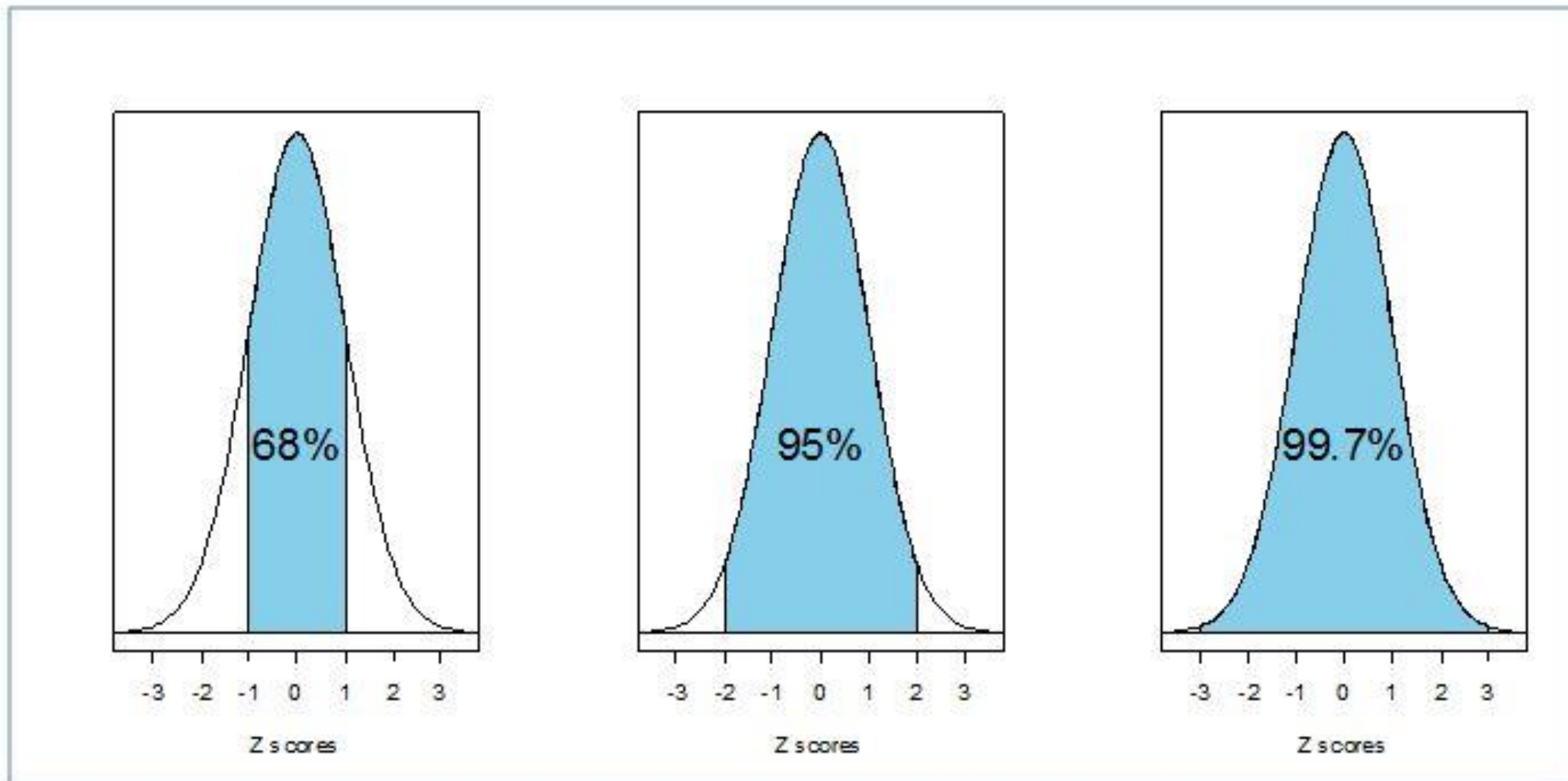
Mean = 4

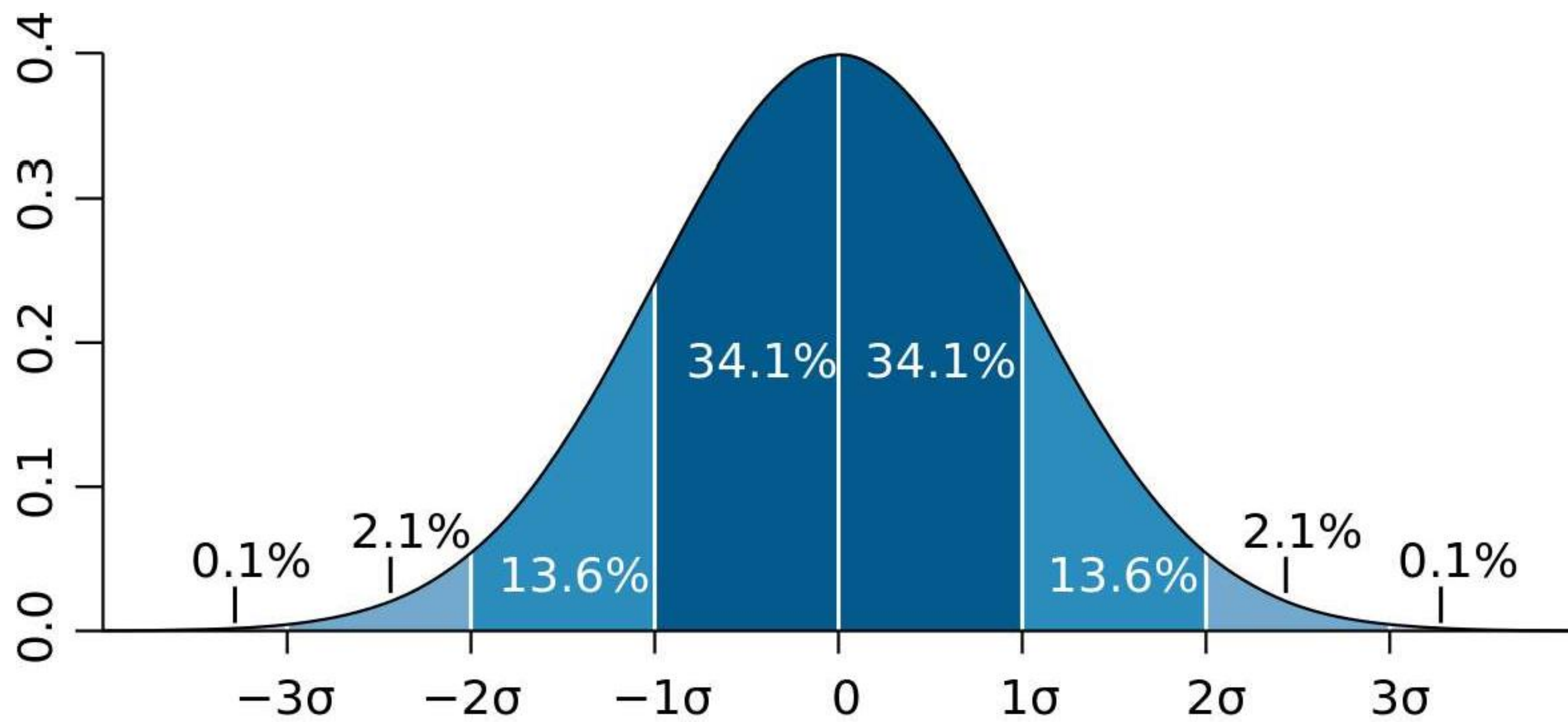
$\sqrt{6} = 2.45$

## Standard Score (standardization)

$$\text{z-score} = (x - \text{mean}) / \text{std}$$

# Empirical Rule





Measure	Qty
Price	1 million
Sq. Ft.	2,500
Neighborhood Rating	79
# Bedrooms	4



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Sq. Ft.	2,500
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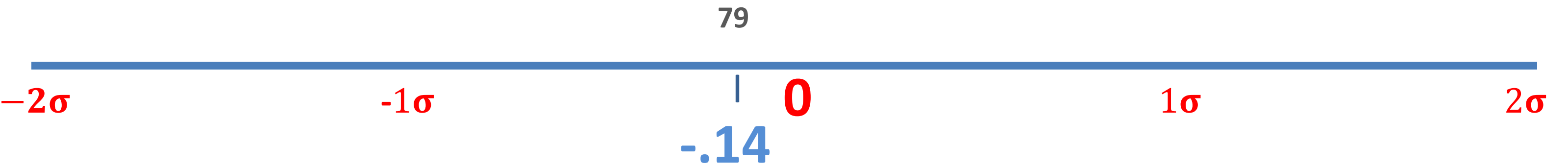
Measure	Qty	Standardized (z-score)
Price	1 million	.89
Sq. Ft.	2,500	.96
Neighborhood Rating	79	-.14
# Bedrooms	4	1.32



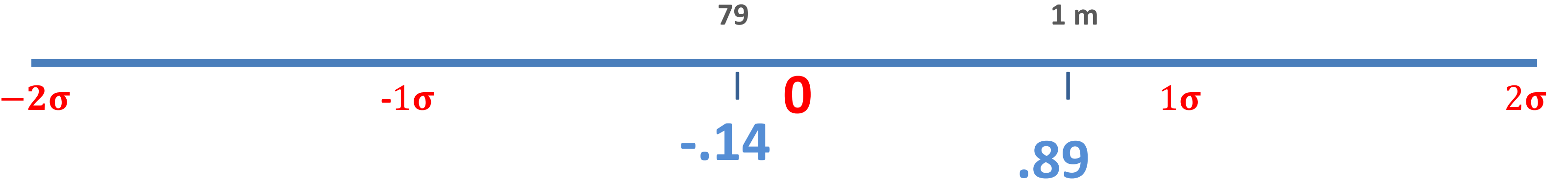
Measure	Qty	Standardized (z-score)
Price	1 million	.89
Sq. Ft.	2,500	.96
Neighborhood Rating	79	-.14
# Bedrooms	4	1.32



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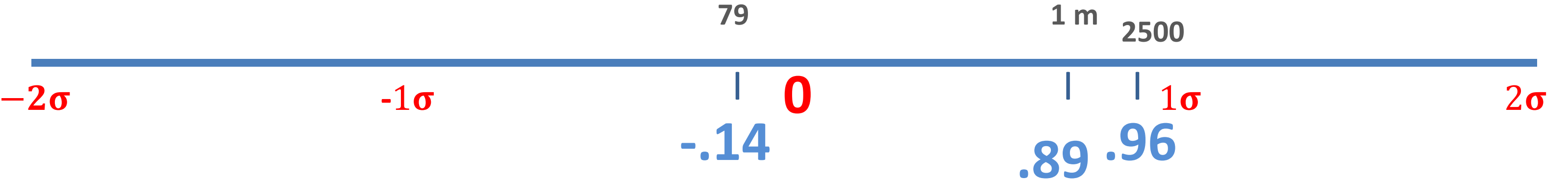


Measure	Qty	Standardized (z-score)
Price	1 million	.89
Sq. Ft.	2,500	.96
Neighborhood Rating	79	-.14
# Bedrooms	4	1.32

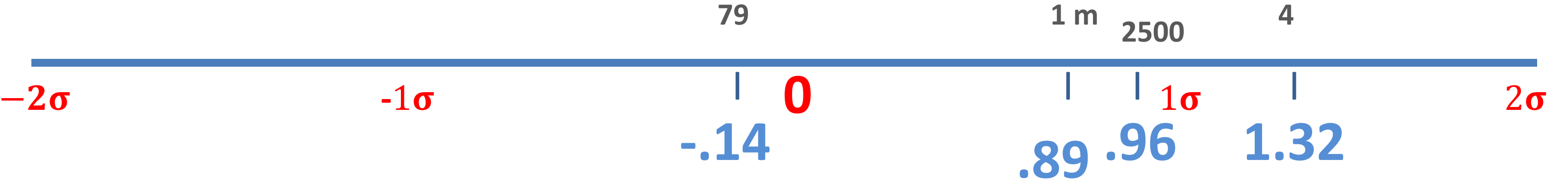




Measure	Qty	Standardized (z-score)
Price	1 million	.89
Sq. Ft.	2,500	.96
Neighborhood Rating	79	-.14
# Bedrooms	4	1.32



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# Range

Feature 1	Deviations	Squared Deviations
0	-4	16
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3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

Max value = 7

Min value = 0

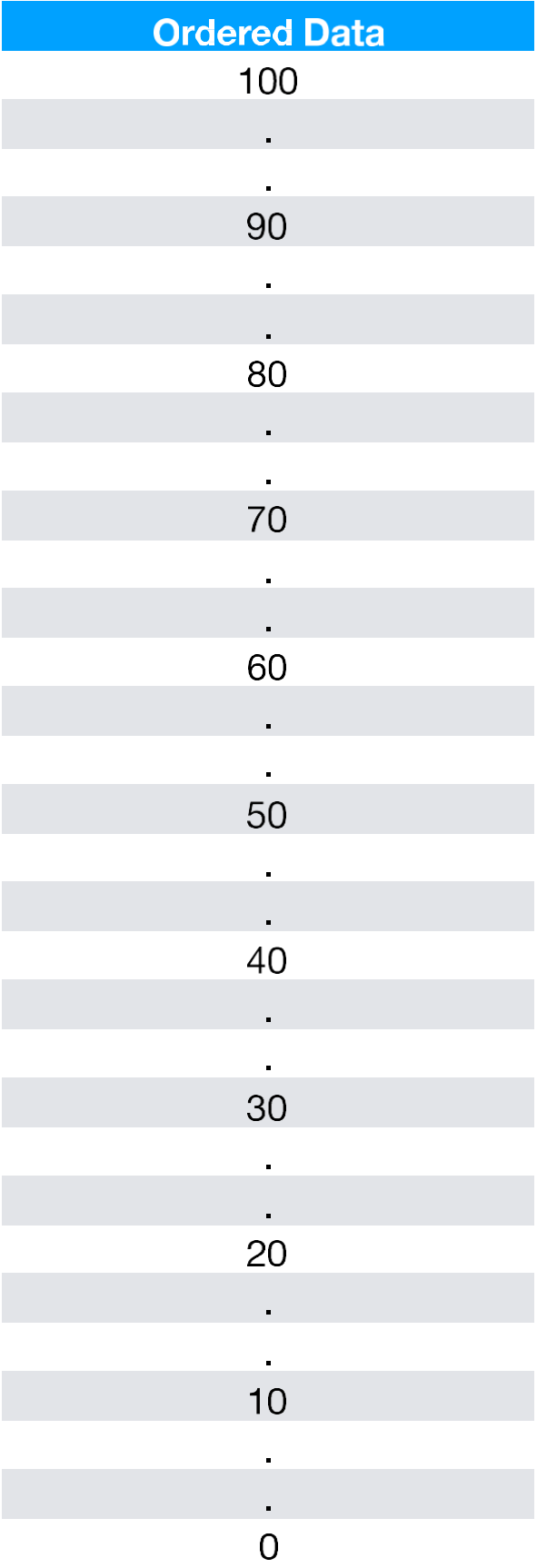
$7 - 0 = 7$



# Percentiles

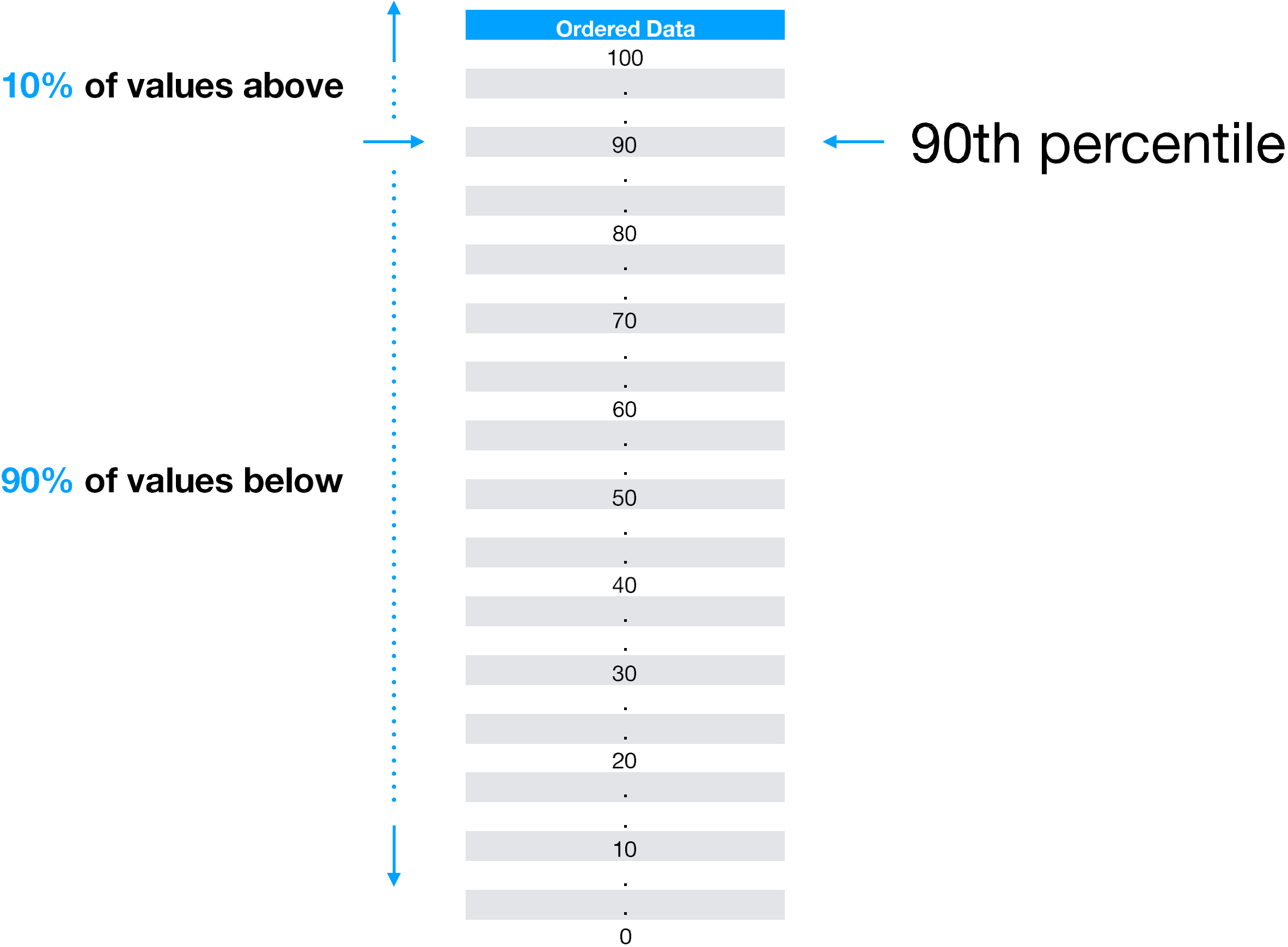
Ordered Data
100
.
.
90
.
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80
.
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70
.
.
60
.
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50
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.
40
.
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30
.
.
20
.
.
10
.
.
0

# Percentiles

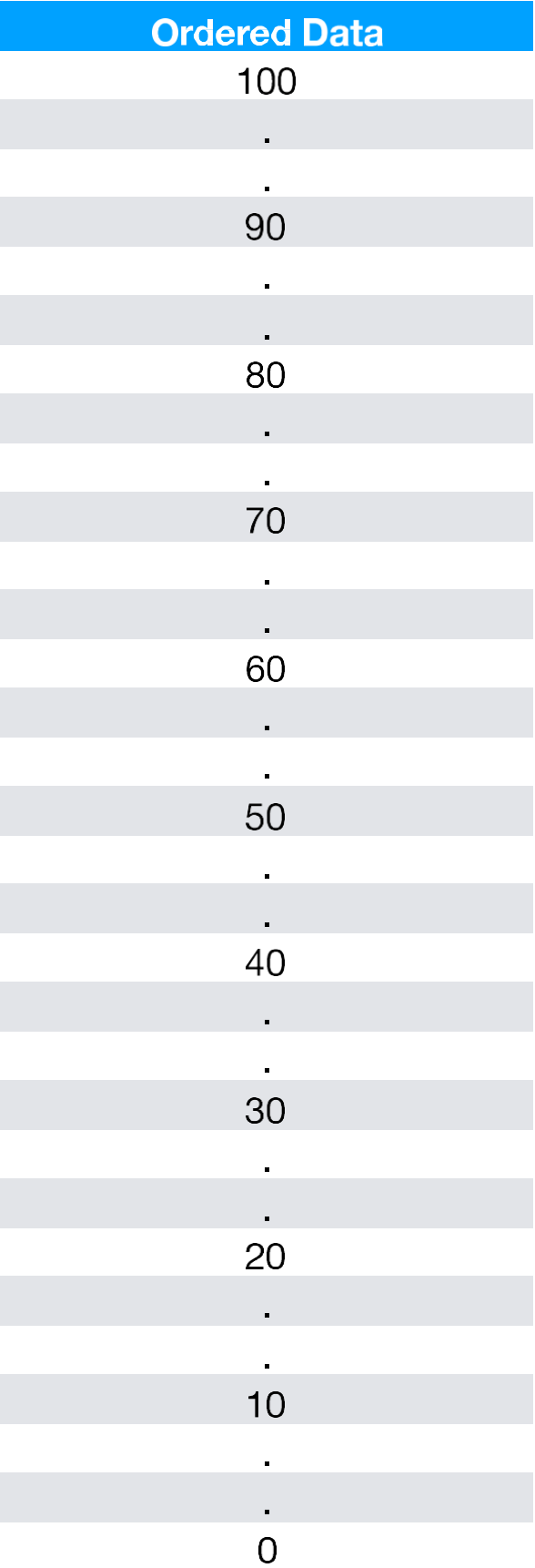


← 90th percentile

# Percentiles



# Quartiles



max

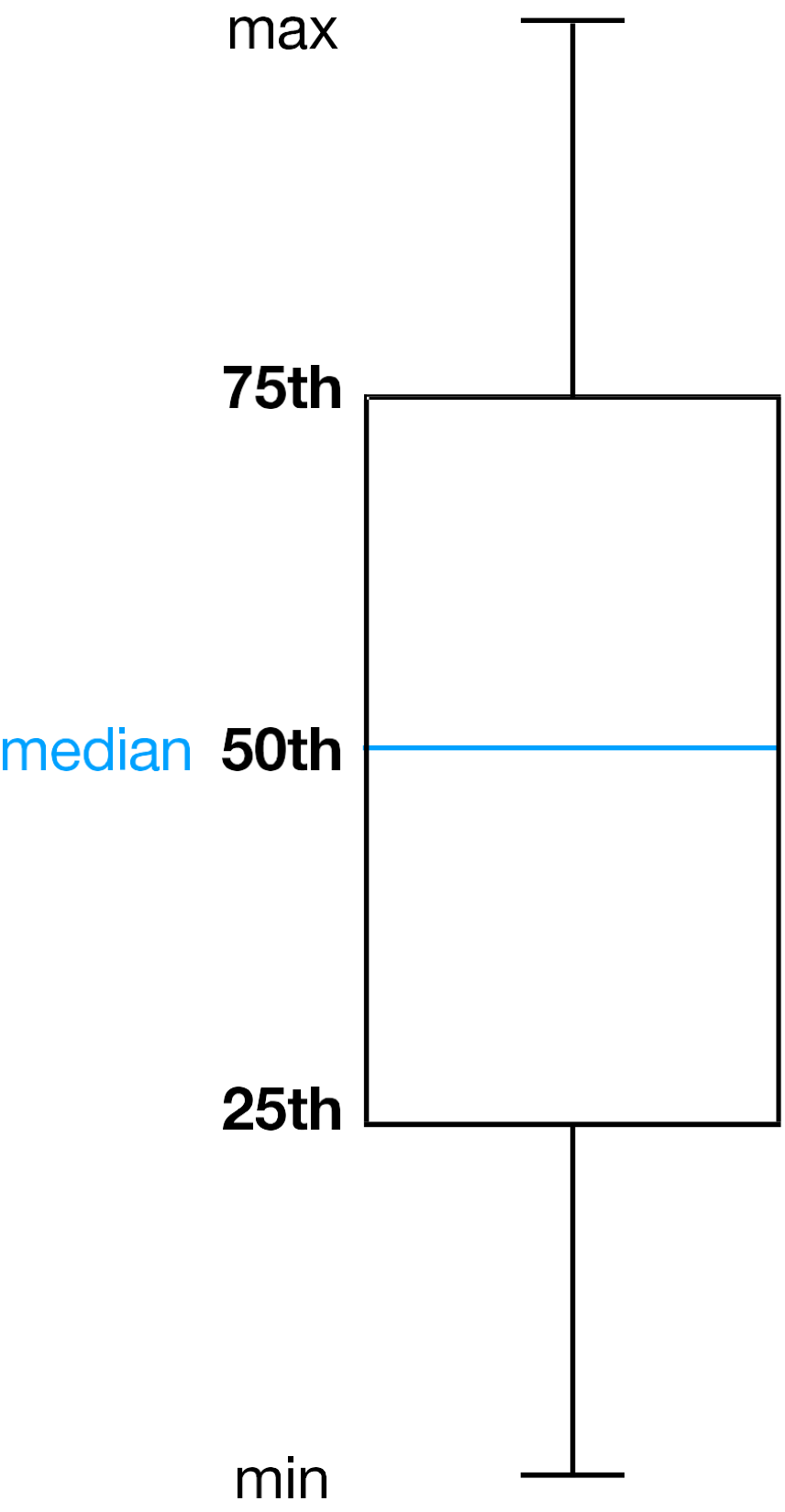
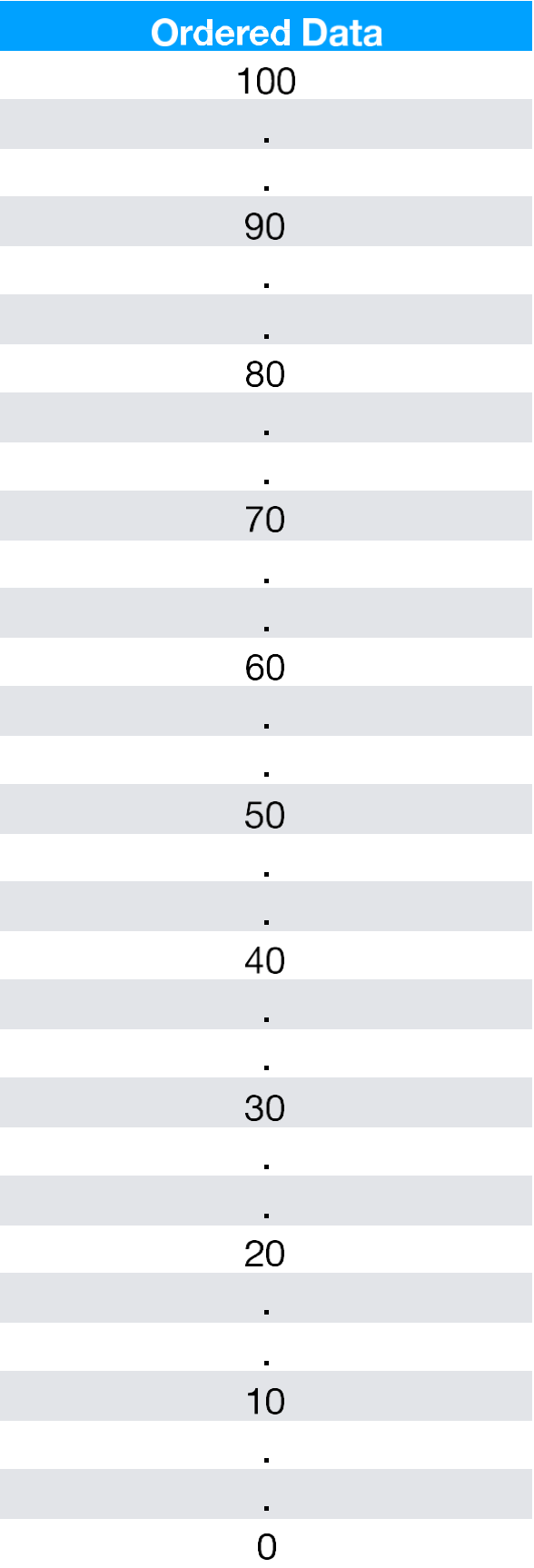
75th

50th

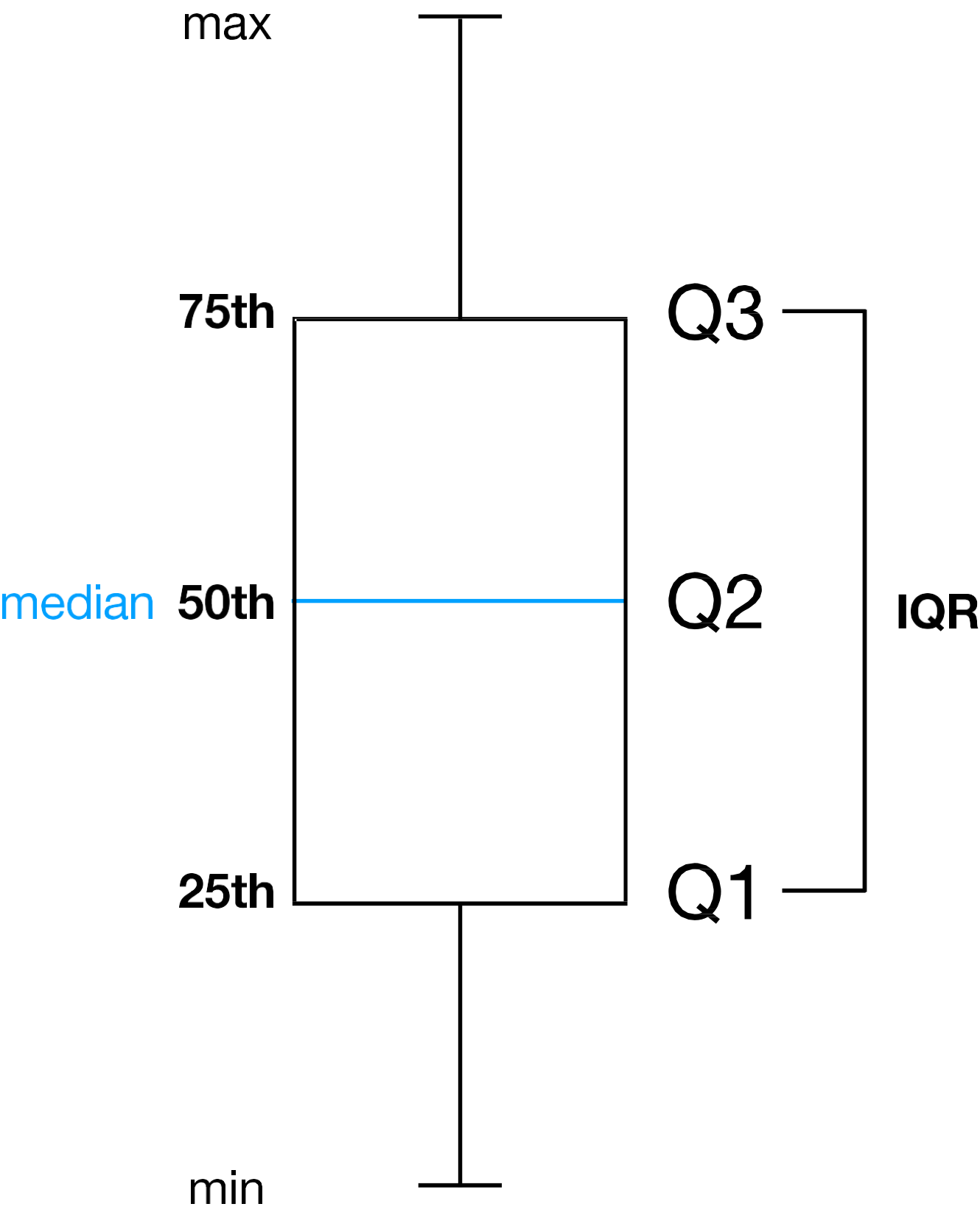
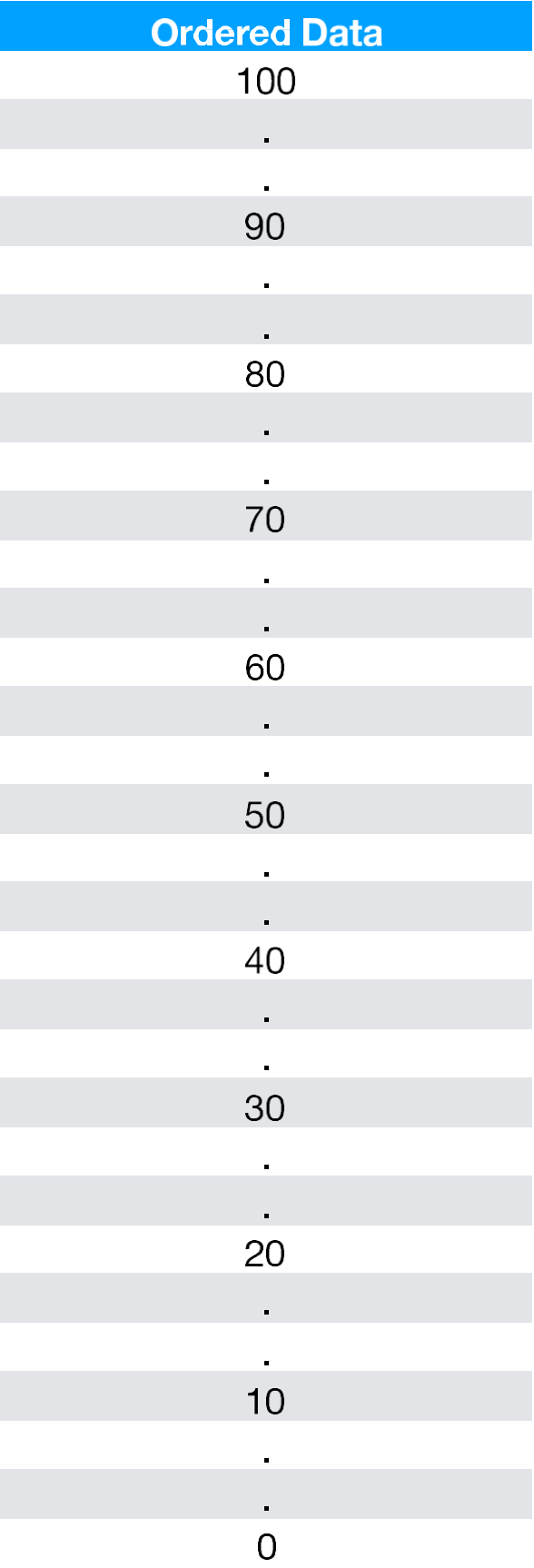
25th

min

# Quartiles



# Quartiles



# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

[illegible]



# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

[illegible]

# Santa Clara County Schools

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# Santa Clara County Schools

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# Santa Clara County Schools

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