STATISTICS

Finds and describes patterns in data

“Rob Bob,” world’s tallest high school basketball player

Algebra 1A * Ms Johnson **Austin Horner 1-2023**

"Rob Bob" from Romania was the world's tallest high school basketball player in the world at 7'7".

WHAT HAPPENED TO ROBERT BOBROCZKY (2022)
so when he walked into that
3rd grade classroom,
1:29 / 8:12 • Growing up in Romania ›

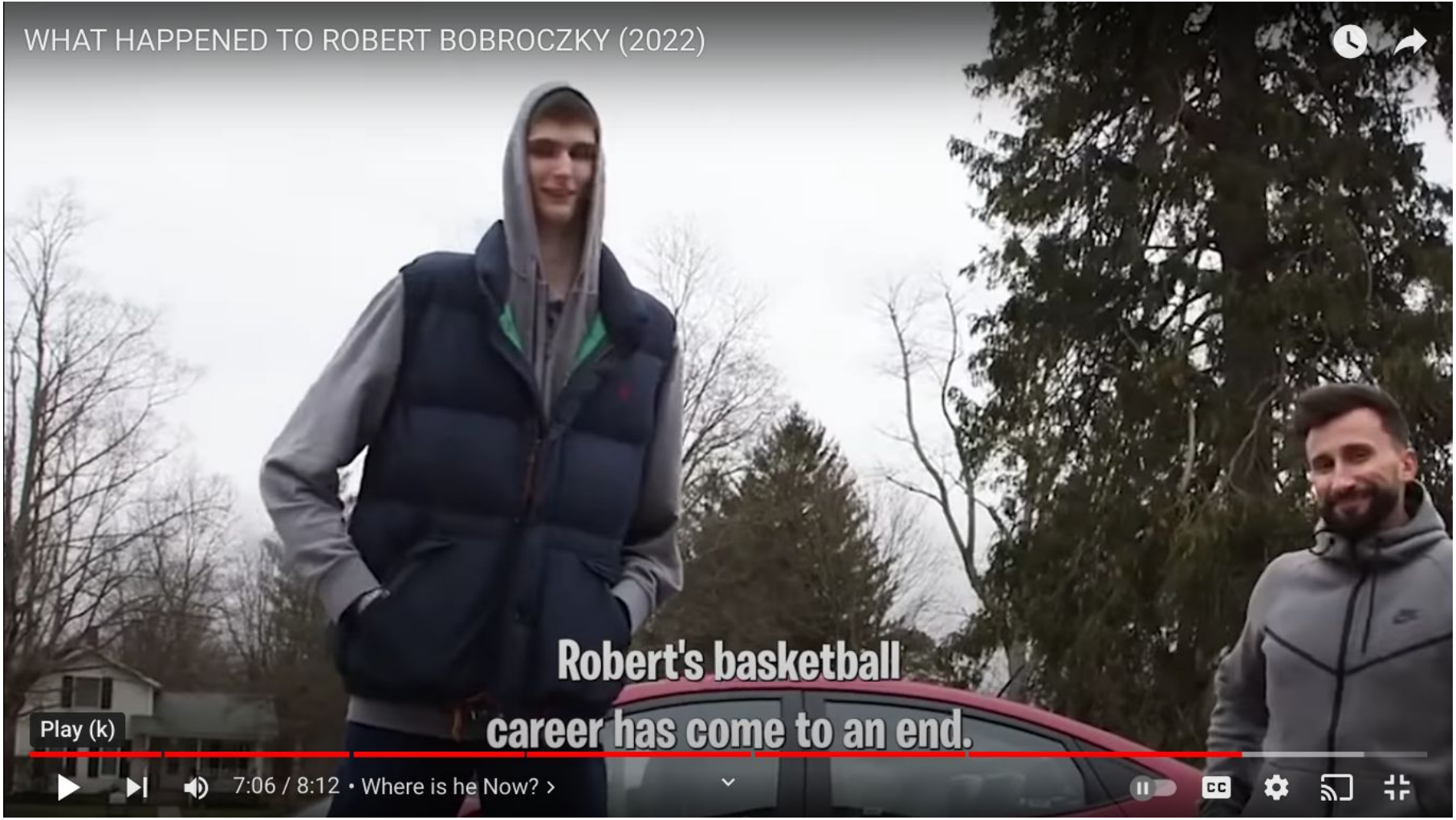
WHAT HAPPENED TO ROBERT BOBROCZKY (2022)
TOWERING over his teacher!
At age 8
Rob Bob towered over his 3rd grade teacher!
Pause (k)
1:33 / 8:12 • Growing up in Romania ›

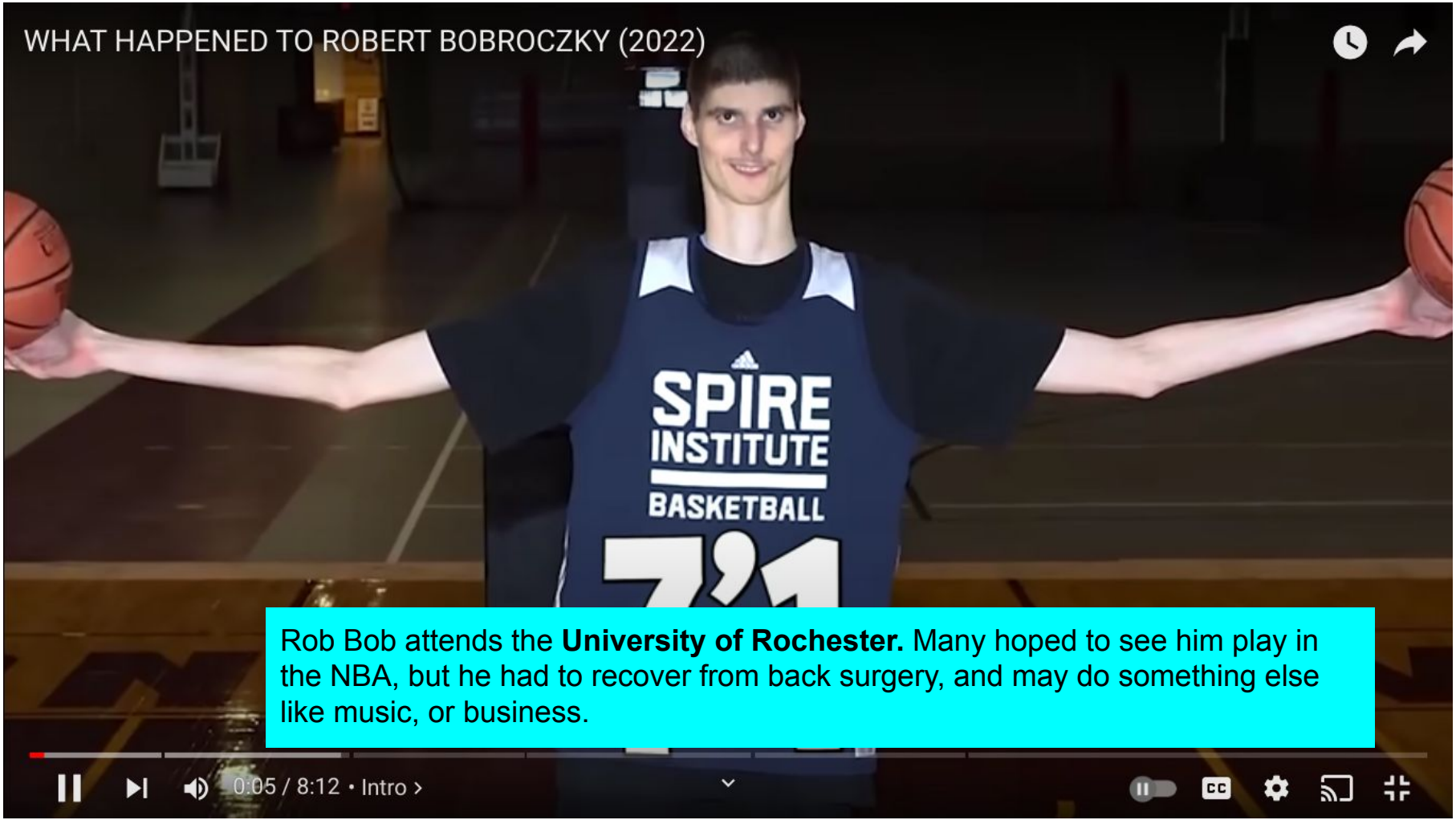
Later, he joined the basketball program at the University of Rochester.

ube.com/watch?v=3_EuHpeZ9Qc

https://www.youtube.com/watch?vFUijFFe566c

WHAT HAPPENED TO ROBERT BOBROCZKY (2022)
this time with his friends
from Rochester University,
Play (k)
6:21 / 8:12 • Where is he Now? ›


WHAT HAPPENED TO ROBERT BOBROCZKY (2022)
Robert's basketball
career has come to an end.
Play (k)
7:06 / 8:12 • Where is he Now? ›



Rob Bob attends the **University of Rochester.** Many hoped to see him play in the NBA, but he had to recover from back surgery, and may do something else like music, or business.

STATISTICS

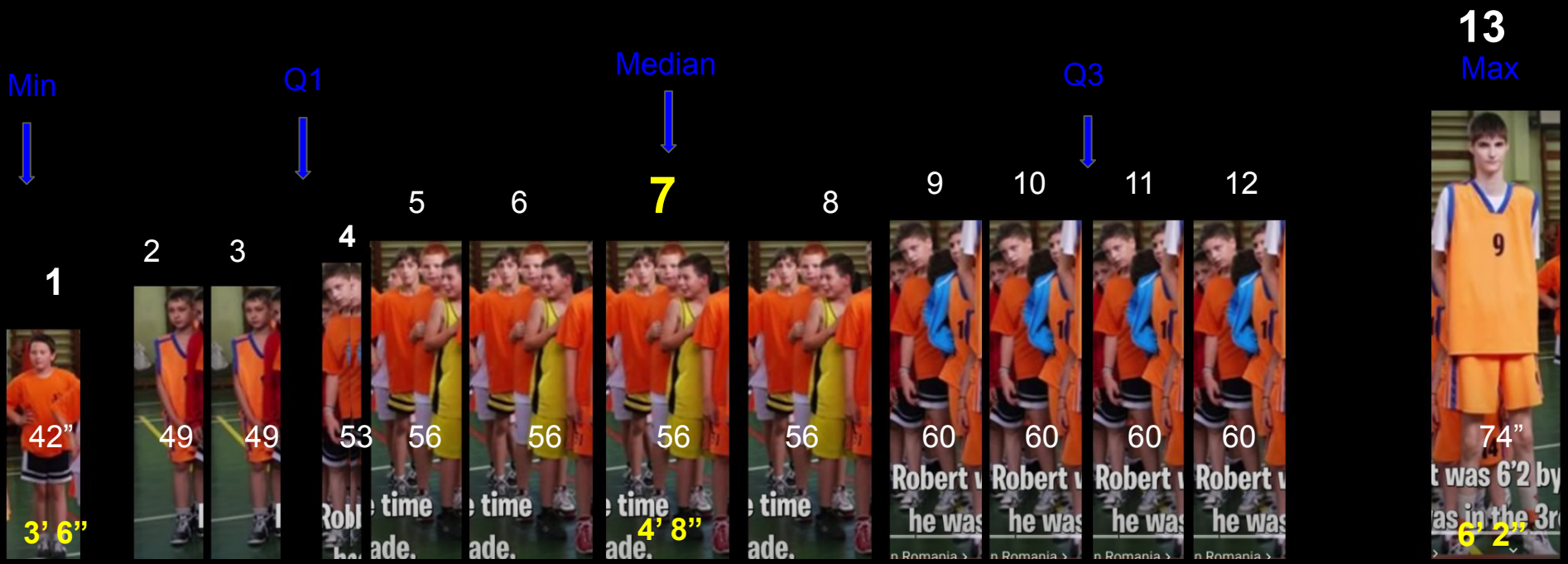
Finds and describes patterns in data

Algebra 1A * Ms Johnson **Austin Horner 1-26-2023**

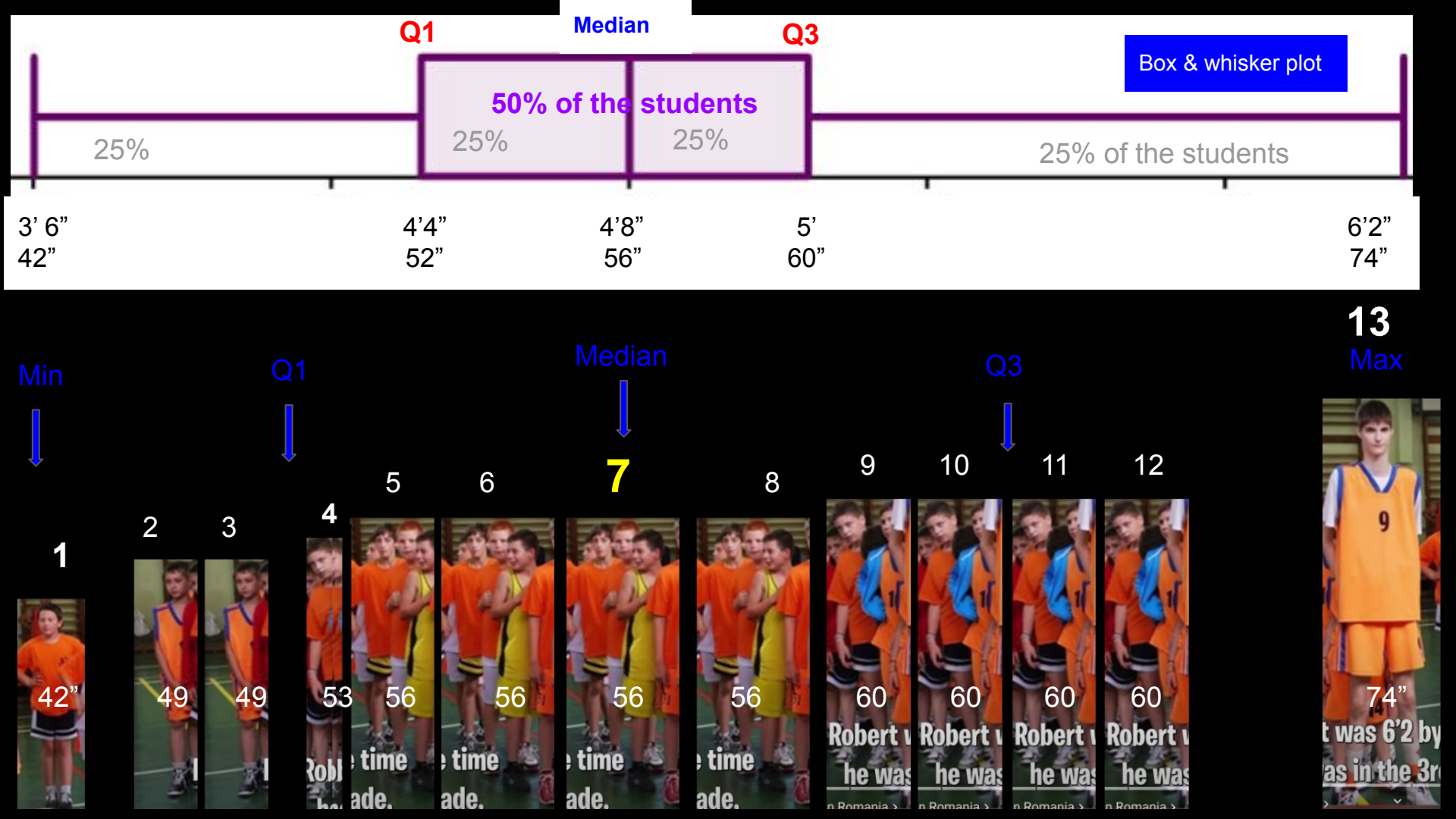
WHAT HAPPENED TO ROBERT BOBROCZKY (2022)
Robert was 6'2 by the time
he was in the 3rd grade,
1:25 / 8:12 • Growing up in Romania ›
To analyze the height statistics, we arrange all of the students in order.

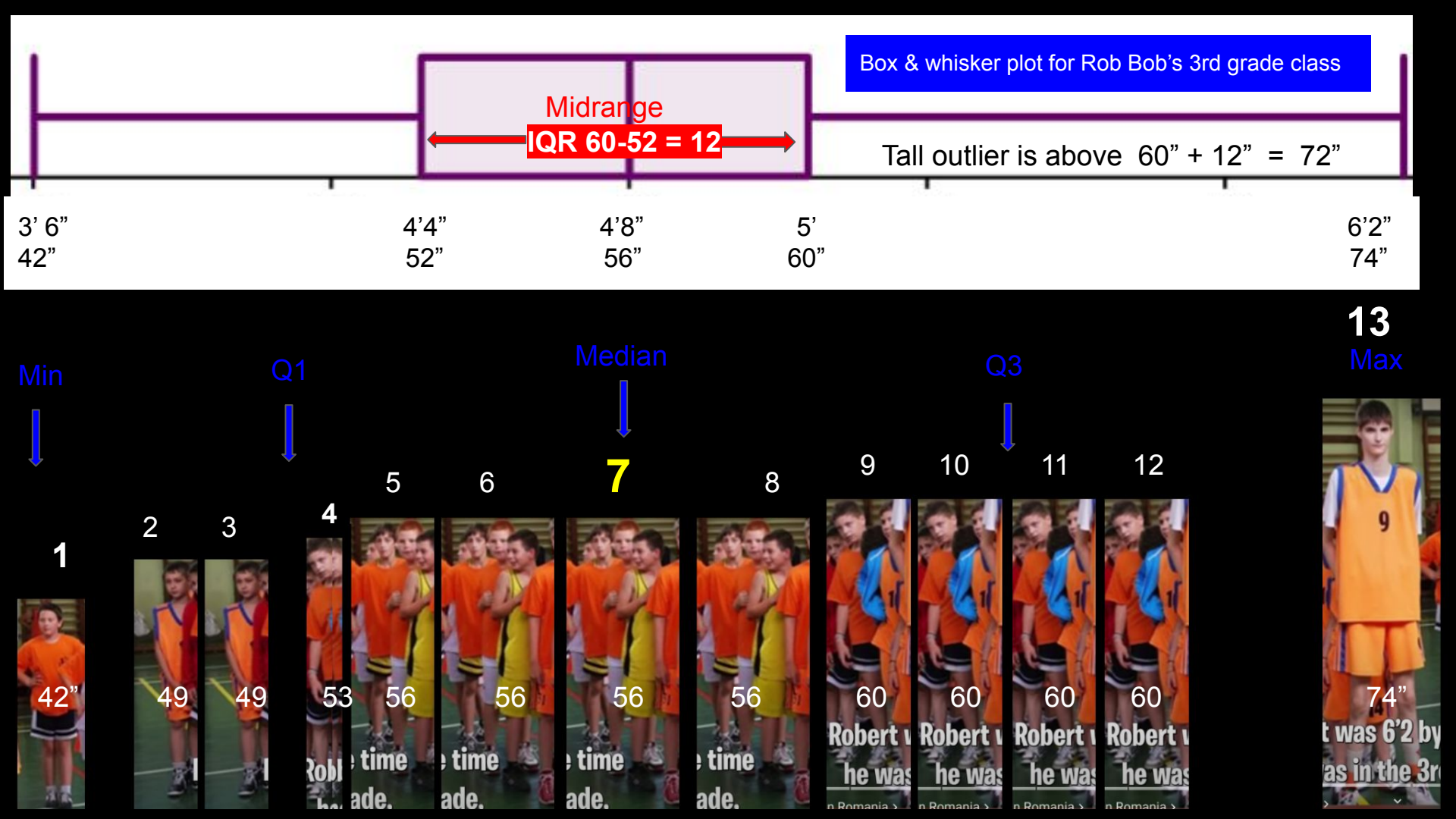
5 number summary

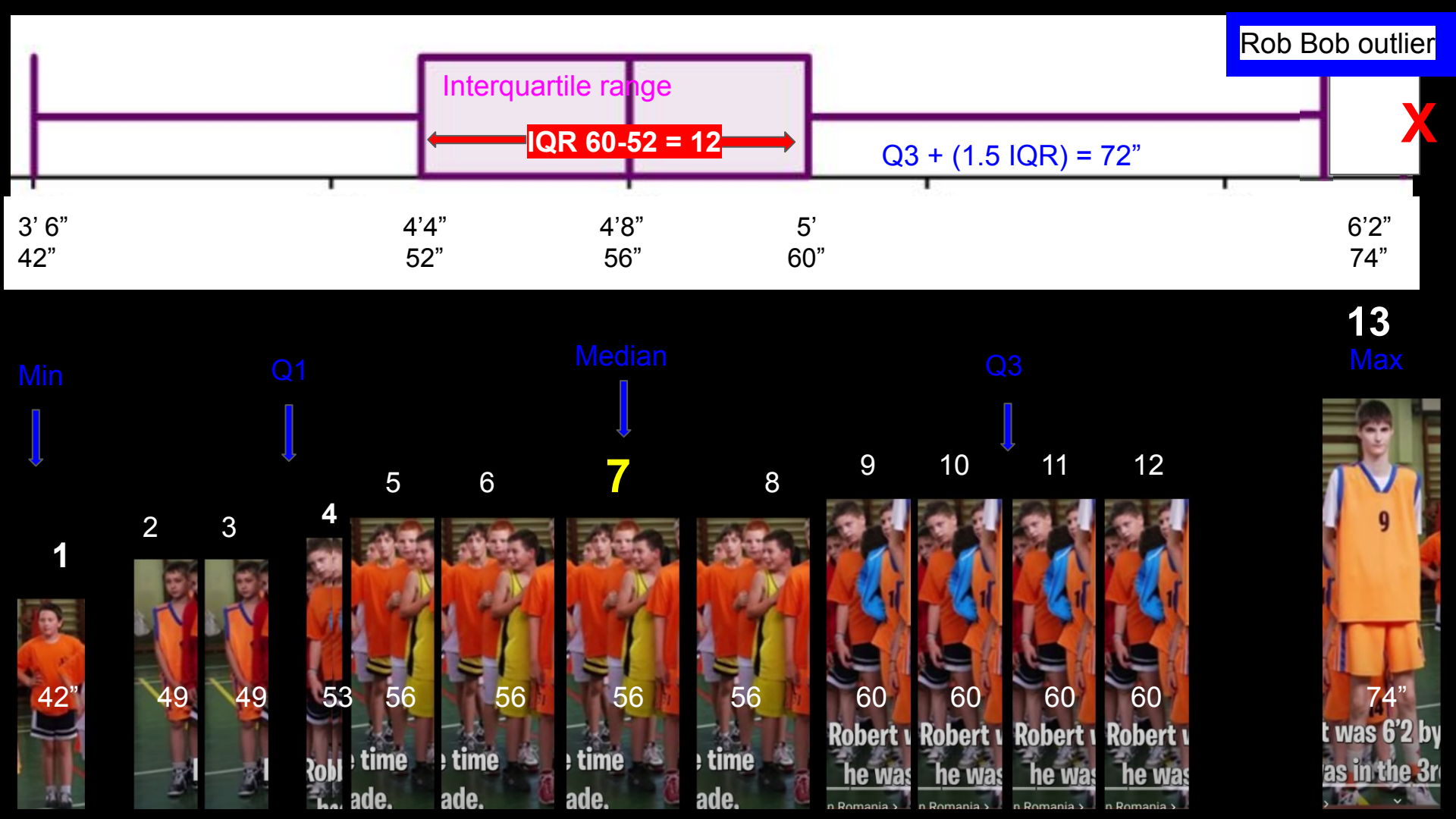
Rob Bob's 3rd grade class

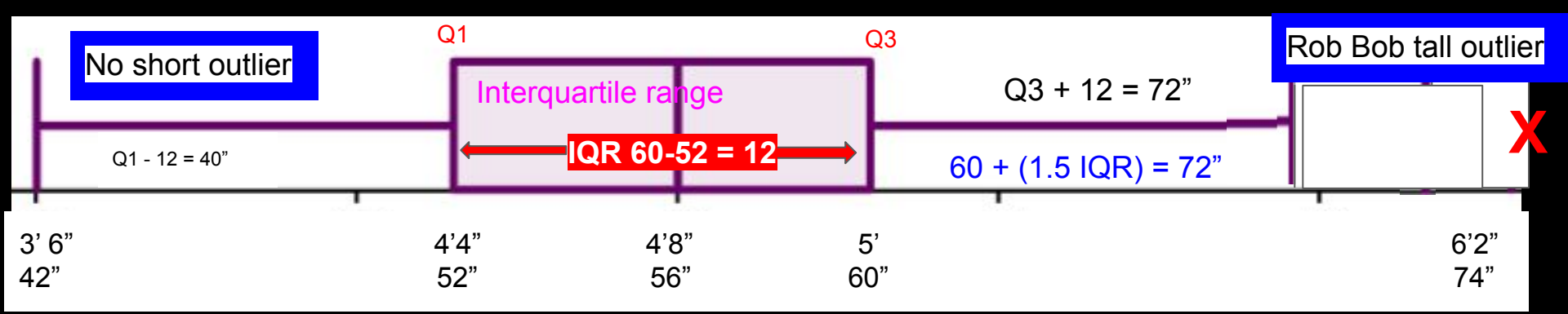


Austin H video


Median
Q1
Q3
Box & whisker plot
50% of the students
25%
25%
25%
25% of the students
3’ 6”
42”
4’4”
52”
4’8”
56”
5’
60”
6’2”
74”
Min
Q1
Median
Q3
Max
1
2
3
4
5
6
7
8
9
10
11
12
13
42”
49
49
53
56
56
56
56
60
60
60
60
74”


Box & whisker plot for Rob Bob's 3rd grade class
Midrange
IQR 60-52 = 12
Tall outlier is above 60" + 12" = 72"
3' 6"
42"
4'4"
52"
4'8"
56"
5'
60"
6'2"
74"
Min
Q1
Median
Q3
13
Max
1
2
3
4
5
6
7
8
9
10
11
12
42"
49
49
53
56
56
56
56
60
60
60
60
74"


Rob Bob outlier
Interquartile range
IQR 60-52 = 12
Q3 + (1.5 IQR) = 72”
X
3’ 6”
42”
4’4”
52”
4’8”
56”
5’
60”
6’2”
74”
Min
Q1
Median
Q3
Max
1
2
3
4
5
6
7
8
9
10
11
12
13
42”
49
49
53
56
56
56
56
60
60
60
60
74”


No short outlier
Q1
Q3
Interquartile range
IQR 60-52 = 12
Q3 + 12 = 72”
Rob Bob tall outlier
X
Q1 - 12 = 40”
60 + (1.5 IQR) = 72”
3’ 6”
42”
4’4”
52”
4’8”
56”
5’
60”
6’2”
74”

Min
Q1
Median
Q3
Max
1
2
3
4
5
6
7
8
9
10
11
12
13
42”
49
49
53
56
56
56
56
60
60
60
60
74”

Rob Bob outlier

Interquartile range

IQR 60-52 = 12

Q3 + (1.5 IQR) = 72”

X

3’ 6”
42”

4’4”
52”

4’8”
56”

5’
60”

6’2”
74”

Error: 1.5(12) = 18
Outliers start at 78 “
Rob Bob NOT outlier”

Min

Q1

Median

Q3

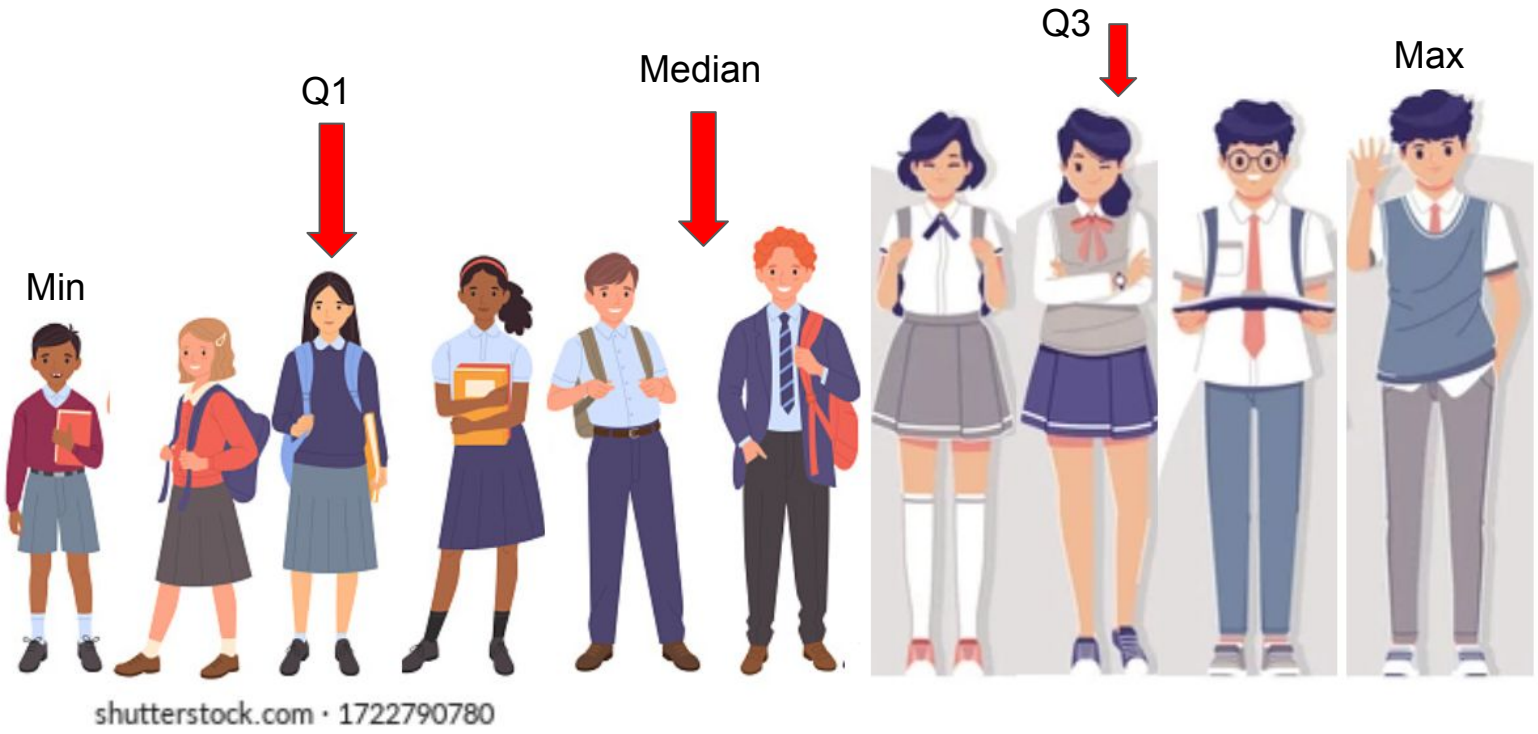
13
Max

How do you make a 5 number summary?

1191786702

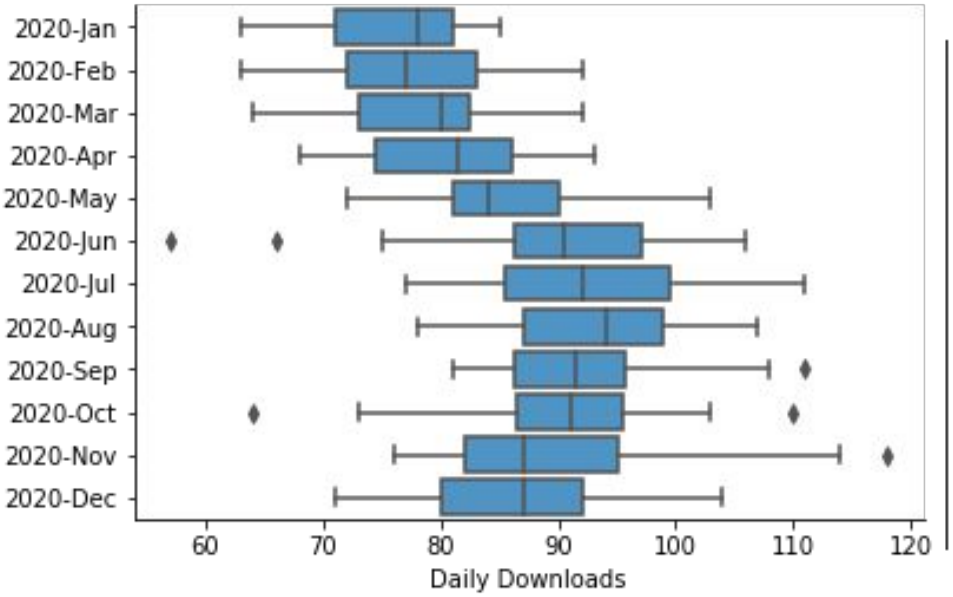
First, arrange all the data in ascending order.

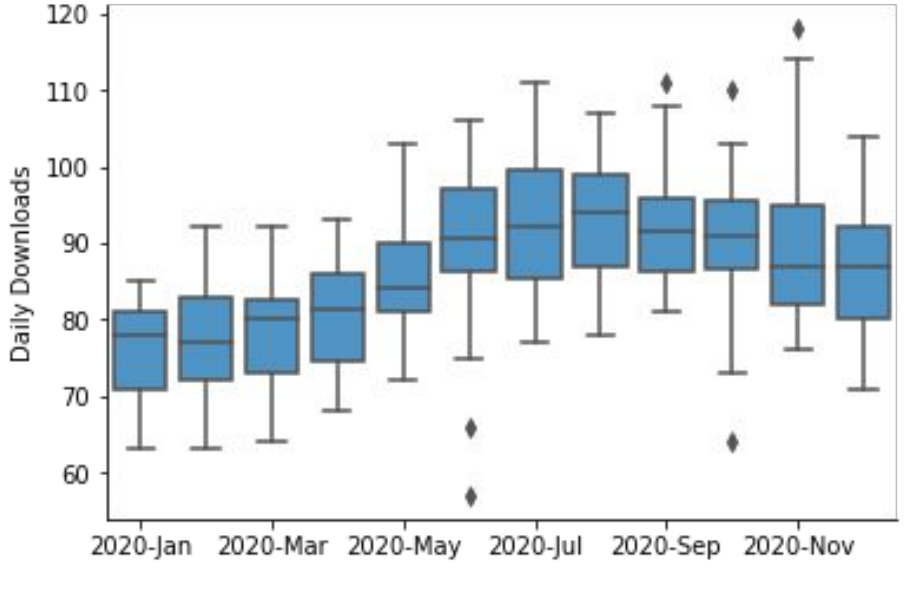
First, arrange all the data in ascending order.



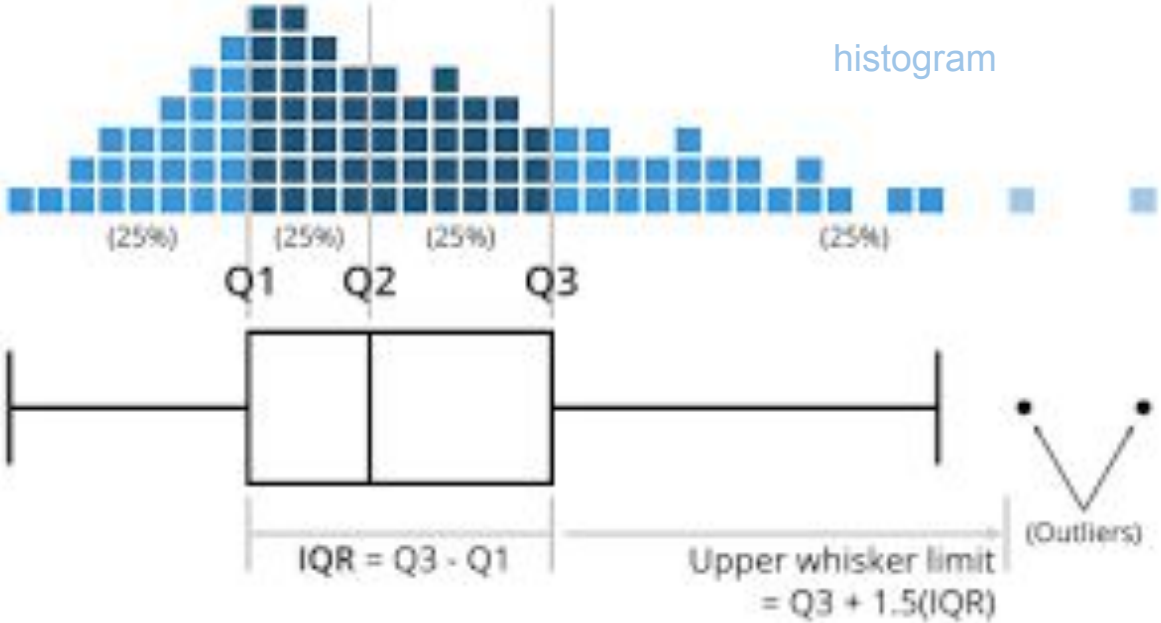
Identify 5 number summary: Minimum and maximum. Median, then Q1 and Q3.

The IQR, the Interquartile range is Q3 - Q1. Use all of this info to make a box and whisker plot.


2020-Jan
2020-Feb
2020-Mar
2020-Apr
2020-May
2020-Jun
2020-Jul
2020-Aug
2020-Sep
2020-Oct
2020-Nov
2020-Dec
60
70
80
90
100
110
120
Daily Downloads


Daily Downloads
120
110
100
90
80
70
60
2020-Jan
2020-Mar
2020-May
2020-Jul
2020-Sep
2020-Nov

Chartio.com


histogram
(25%)
(25%)
(25%)
(25%)
Q1
Q2
Q3
(Outliers)
IQR = Q3 - Q1
Upper whisker limit
= Q3 + 1.5(IQR)

Chartio.com

OTHER ALGEBRA 1A SEMESTER 1 REVIEW

Probability of rolling 6 twice: (⅙)(⅙) = 1/36. Rolling 3 or a 6 is (⅙) + (⅙) = 2/6 = 1/3

A statistician is compiling a table summarizing results from a survey about whether seventh and eighth grade students walk or take a bus to school. The statistician gets interrupted before completing the last cell of the table.

	7^{th} grade	8^{th} grade
walks	82	96
rides bus	144	

What value should be entered into the blank cell if it is known that 40% of the surveyed eighth grade students ride the bus to school?

Correct. Good Job! **Score: 100%**

Let x be the missing value in the table. Then there are $96 + x$ eighth grade students who were surveyed, of which x of them ride the bus to school. So, the fraction of eighth grade students who ride the bus to school is $\frac{x}{96 + x}$. This is known to equal $40\% = 0.4$. Consequently,

$$\frac{x}{96 + x} = 0.4$$

$$x = 0.4\,(96 + x)$$

$$x = 0.4\,(96) + 0.4x$$

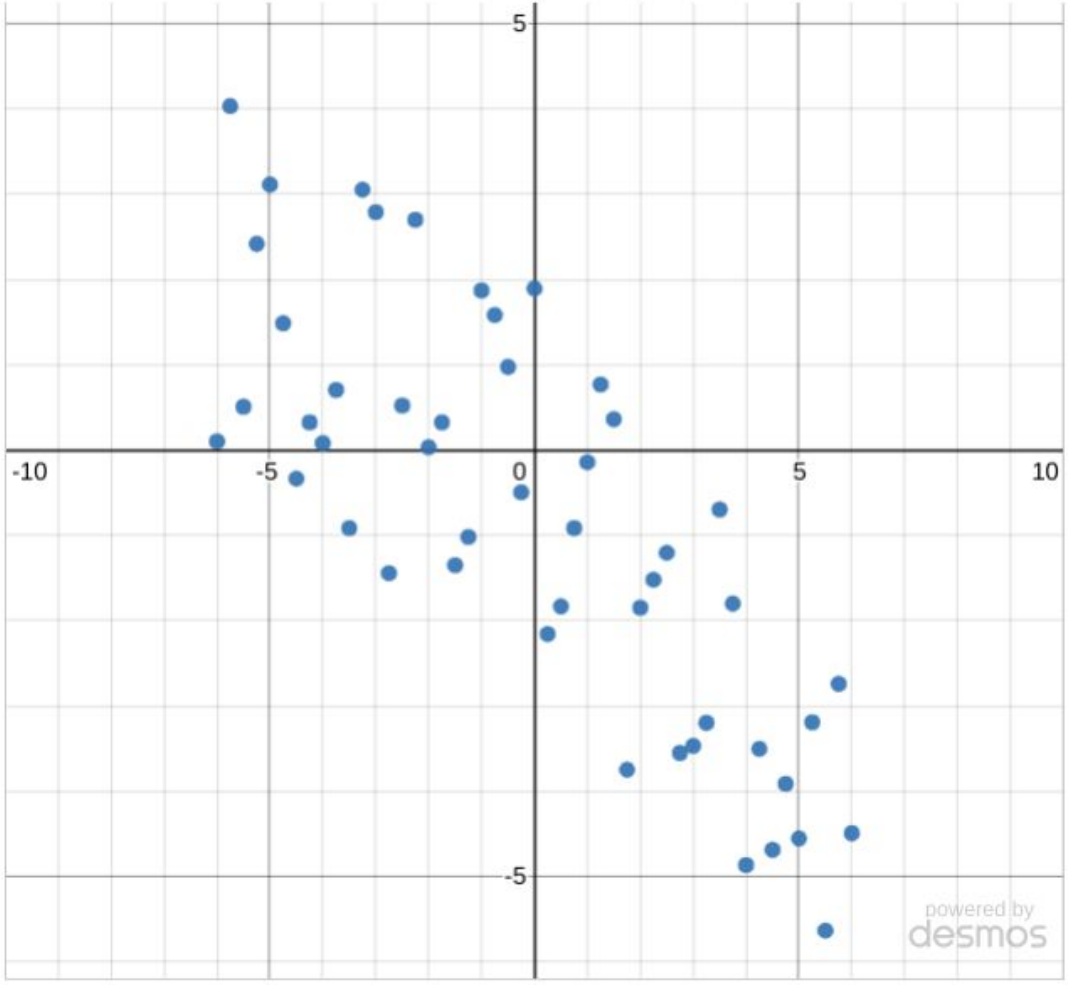
$$x - 0.4x = 0.4\,(96)$$

$$x - 0.4x = 38.4$$

$$0.6x = 38.4$$

$$x = \frac{38.4}{0.6}$$

$$x = 64.$$


5
-10
-5
0
5
10
-5
powered by
desmos

- 0.9
- 0.1
- -0.65 ✓
- -0.92

✓ Correct. Good Job! **Score: 100%**

The coefficient that best fits the first graph is -0.65 because the data points are somewhat close together and fit a linear trend with a negative slope.

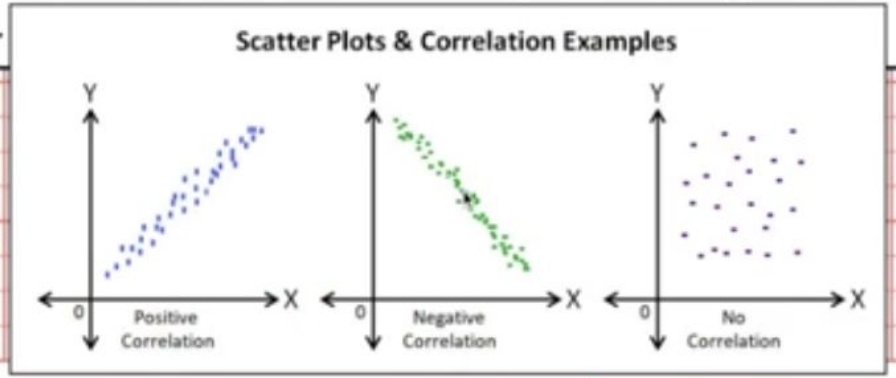
Notes from Ms Johnson class

Correlation and Scatter Plots

Positive Correlation: as the independent variable increases, the dependent variable also increases.

Negative Correlation: as the independent variable decreases, the dependent variable also decreases.

No correlation: there is no correlation, relationship, between the two variables.



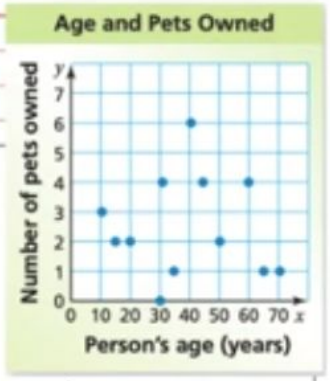
6:34 / 10:43

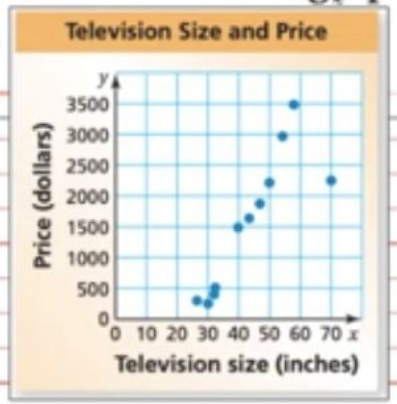
What is a Scatter Plot?

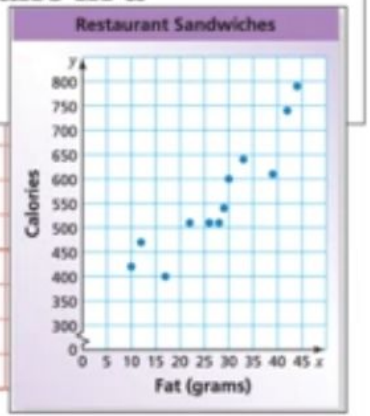
Key Idea

Scatter Plot

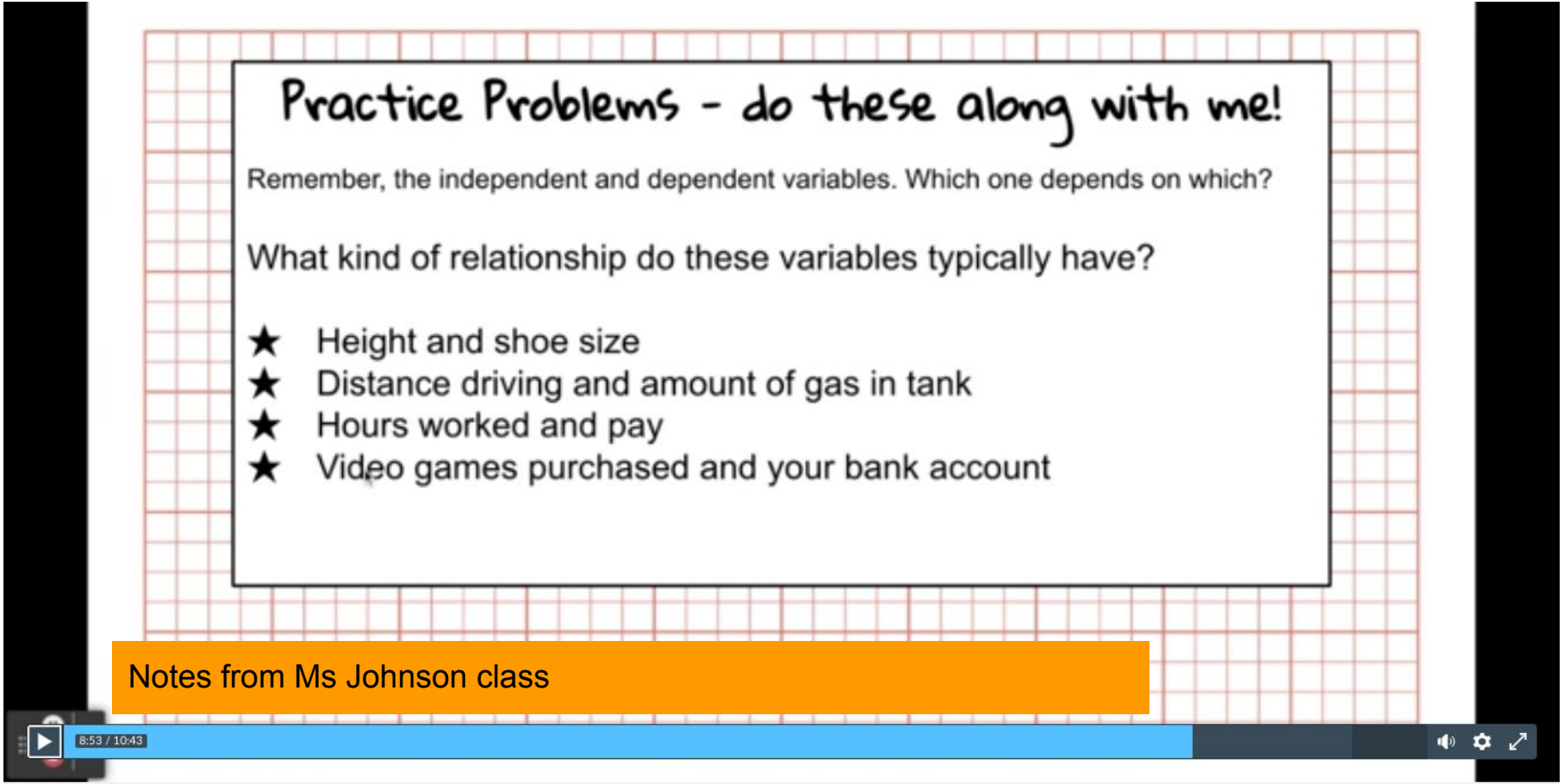
A **scatter plot** is a graph that shows the relationship between two data sets. The two sets of data are graphed as ordered pairs in a coordinate plane.







Notes from Ms Johnson class


Practice Problems - do these along with me!
Remember, the independent and dependent variables. Which one depends on which?
What kind of relationship do these variables typically have?
★ Height and shoe size
★ Distance driving and amount of gas in tank
★ Hours worked and pay
★ Video games purchased and your bank account
Notes from Ms Johnson class
8:53 / 10:43

CREDITS

StrictlyBBall (2022)
What happened to Robert Bobroczky. Youtube.com

Geogebra.org (2022)
Box plot tool. https://www.geogebra.org/m/r8axwgzr

Horner, Celeste (2022)
Learning coach