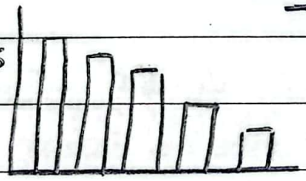
Object \ \ Date

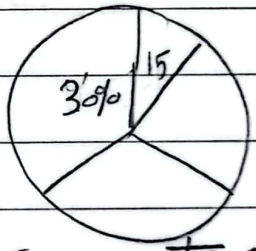
which graph do I use ? -circle graph -bar graph -line graph -Histogram.

-Bar graph → show the number of categories
-circle graph → Compare parts of Data to the whole
-Double bargraph → Compare Two or more sets of Data
-Box whisker plot → show measures of Variation
-Histogram → show frequency of Data divided into intervals.
-line graph → show change over time
-Line plot → show frequency data on a number Line.

Bar graph

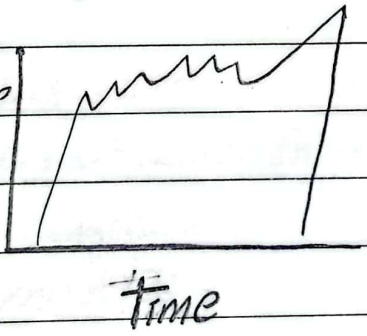


circle graph



Comparing parts to the whole.

Line graph



Double bar graph → Comparing Different sets of Data

- christian
- No Religion
- other

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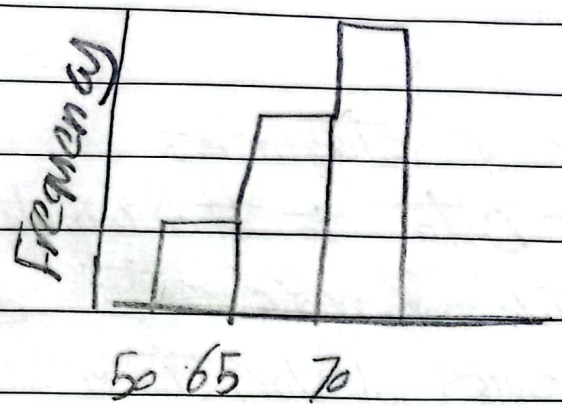
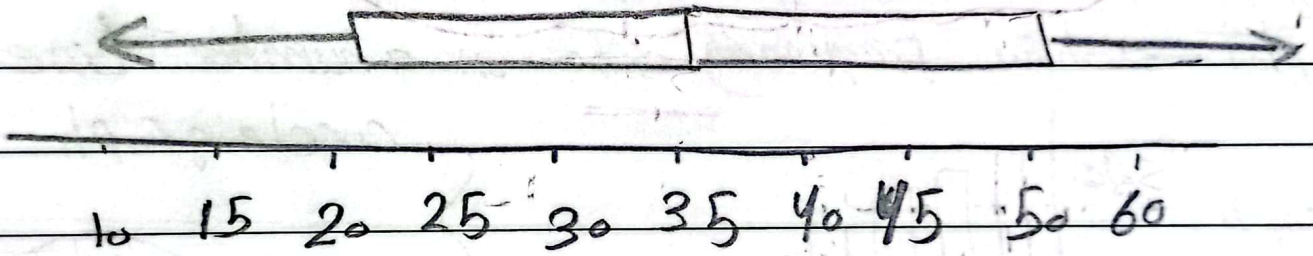
Histogram → use in intervals



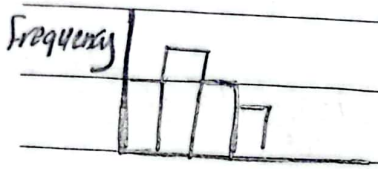
Box and whisker → show variation



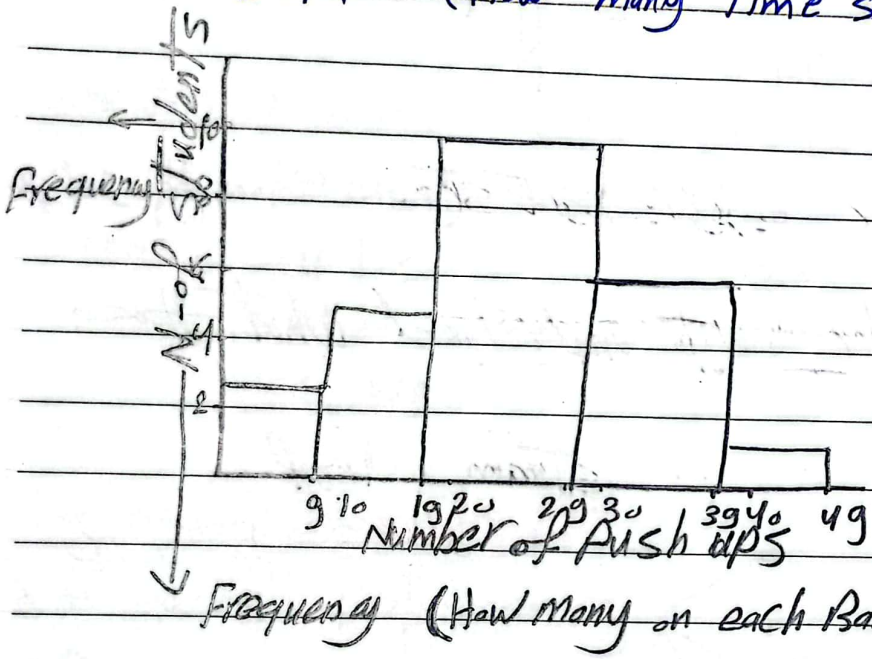
Object

Date

[Histogram]



- shows as How often different values occur in a set of Data (How many time something happens)



Steam-and-leaf plots Data & graphing.

Stem → العشرات tenth leaf → ones الآحاد

digits الـ

1- order the numbers

2- stem | leaf

3- stem → in the order from the smallest to the greatest

* using to organise Data from the least to greatest

الأمثل

Object \ \ Date

33 , 31 11 10 14

10 11 14 31 33

min 1 ⟶ 1
Max steam ⟶ 3

leaf ⟶ always ones
الآحاد

steam	leaf (least to greatest)
1	0 1 4
2	
3	1 3

Key 1|4 = 14
لازم ال steam تكون بالترتيب *

To show the reader how to understand what these values are

03 05 05 06
11 12 14 14 16
20 23 25 28
35 36 37
41 43 48
60 62 69

steam	leaf
0	3 5 5 6
1	1 2 4 4 6
2	0 3 5 8
3	5 6 7
4	1 3 8
5	
6	0 2 9

Key 2|3 = 23 years old
* مع الارقام الكبيره مينفعش ماخد كدا كدا ال ones (الآحاد)
يتبقى هي leaf

Object

Date

96 99 108 115 117 130 133 139

steam	leaf
9	6 9
10	8
11	5 7
12	
13	0 3 9

key 10|8 = 108

with decimal numbers like 34.345

you can make any format like

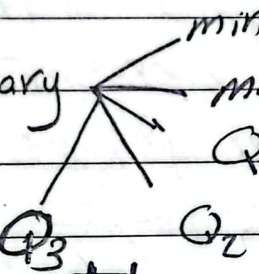
34|3 34.3|45

34|34

34|345

Box and whisker plot

- five number summary



the box between 3 quartiles.

- order the data

6 6 7 8 11 12 14 14 16 20 23 | 25

24

28 28 36 37 41 43 48 62 65

Q_1 Q_3

- min = 3

max = 69

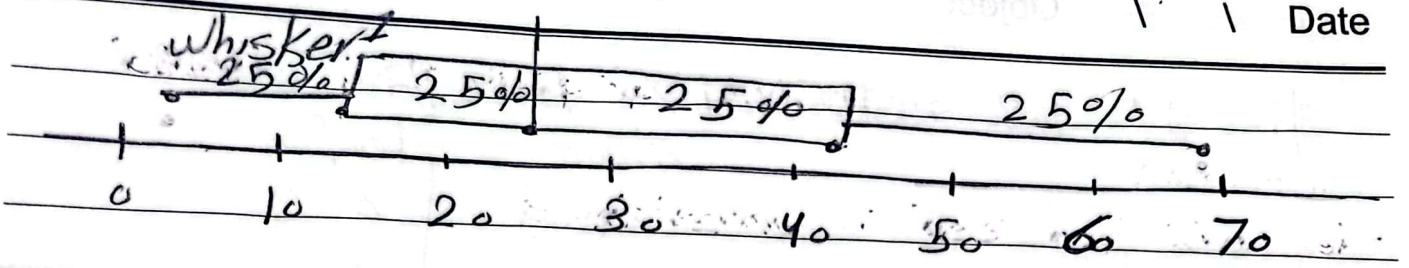
median = $Q_2 = \frac{23+25}{2} = \frac{48}{2} = 24$

$Q_1 = 12$ $Q_3 = 41$

الأمل

Object 50%

Date



first whisker From minValue to Q_1

Second whisker From Q_3 to maX Value

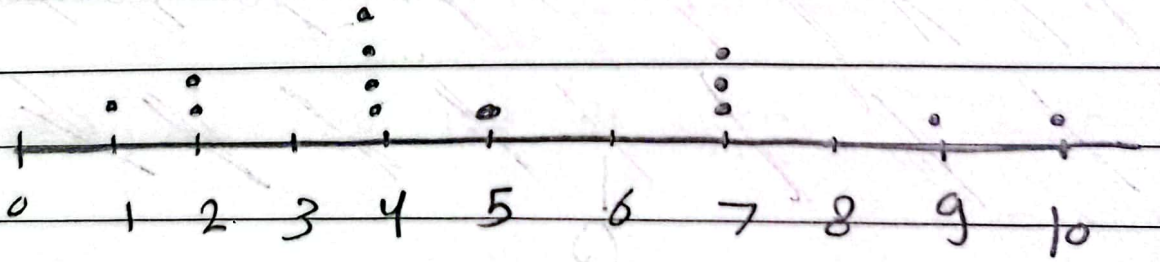
*when whisker is more longer (The data is more spread on it)

$$IQR = Q_3 - Q_1$$

[Dot plot] → organise in The Way to understand.

* each Data point is represented by a dot along number line Number of hours students spend studing per week

1 2 2 4 4 4 4 5 7 7 7 9 10



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[pie chart] → the type of graph that divided into slices.
the data expressed in percentage

size	frequency number of players	degrees	percentage
XS	5	$6° \times 5 = 30°$	$1.7 \times 5 = 8.5$
S	10	$6 \times 10 = 60°$	$1.7 \times 10 = 17$
M	26	$6 \times 26 = 156$	$1.7 \times 26 = 44.2$
L	19	$6 \times 19 = 114$	$1.7 \times 19 = 32.3$
	60		

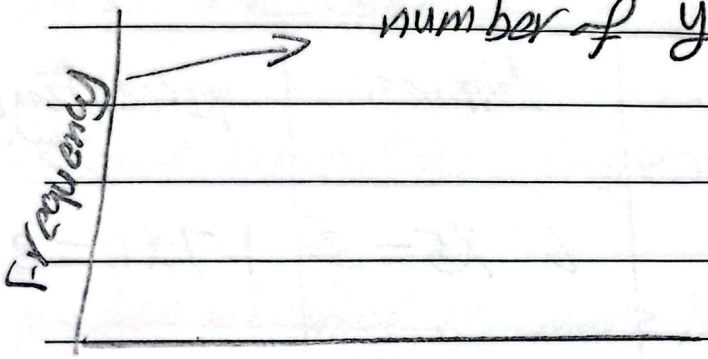
How many degrees will each size make up in the circle of pie chart $\frac{360}{60} = 6$

percentage of each data $= \frac{100}{60} = 1.7\%$

Object Date

[Barchart] Bar graph.

* uses to Compare different types of informations
it uses bars or columns
number of y axis



x-axis
Sometimes Qualitative var
↓
Categorical Data
describes with words

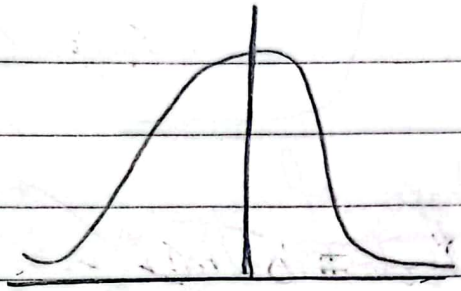
Object \ \ Date

$\bar{x}$ = median

$\bar{x}$ ↓ average

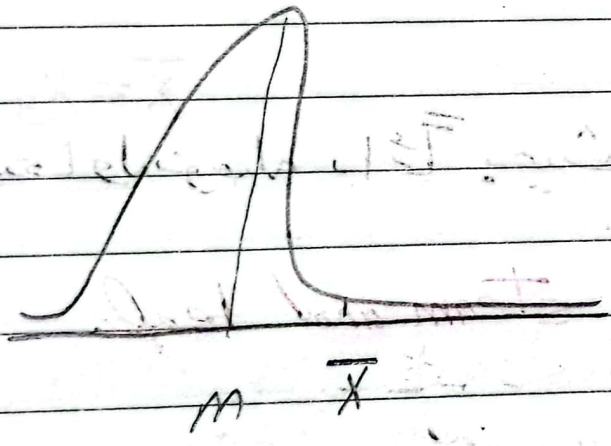
normal distribution

average = median.



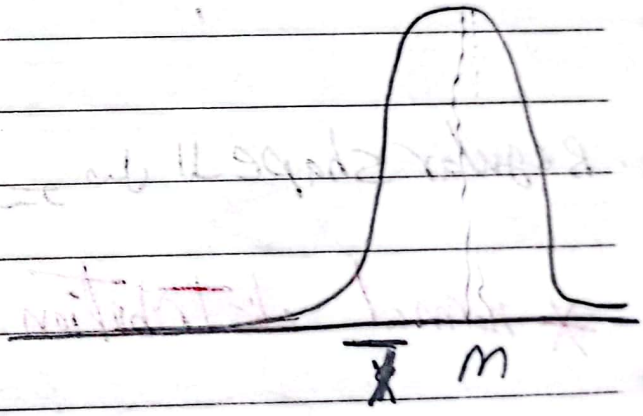
② average > median

Right skewed



③ average < median

left skewed



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