

T1:

13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70.

Median = 25

Mean =  $809/27 = 29.96$

Mode = 25, 35  $\rightarrow$  bimodal

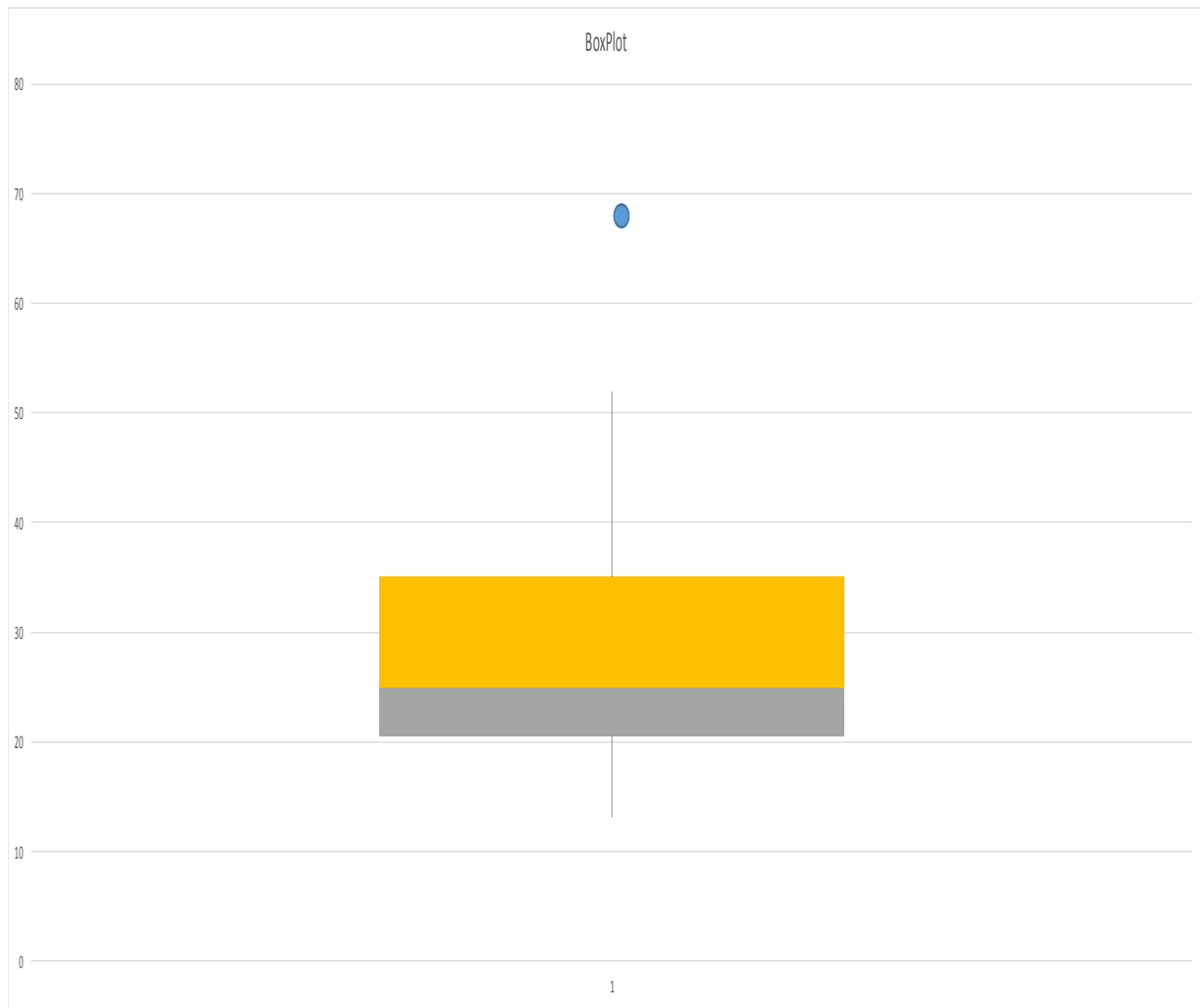
Midrange =  $(13+70)/2 = 41.5$

Q1 = 20

Q2 = 35

Five number summary : min=13 ---- Q1=20.5 ---- median=25 ---- Q3=35 ---- max=70

F)



T2:

Age = 23 23 27 27 39 41 47 49 50 52 54 54 56 57 58 58 60 61

%fat = 9.5 26.5 7.8 17.8 31.4 25.9 27.4 27.2 31.2 34.6 42.5 28.8 33.4 30.2 34.1 32.9 41.2 35.7

a)

MEAN FOR AGE =  $836/18 = 46.44$

MEDIAN FOR AGE =  $(50+52) / 2 = 51$

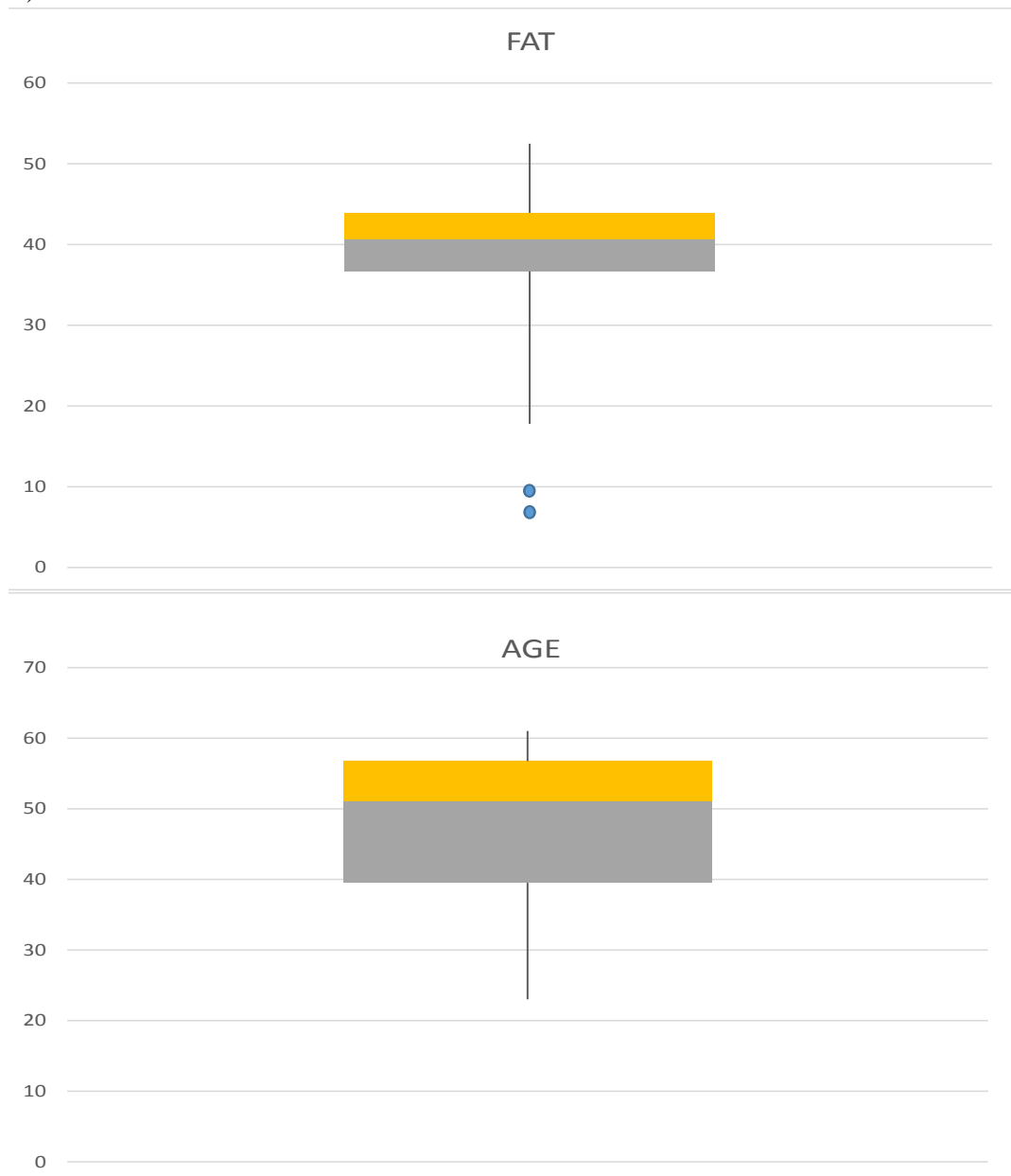
STANDARD DEVIATION OF AGE =  $\text{SQRL}((1/N)\sum(X_i^2 - \mu^2)) = \text{SQRL}((23^2 - 46.44^2) + \dots + (61^2 - 46.44^2)) = 13.218$

MEAN FOR %FAT =  $518.1/18 = 28.78$

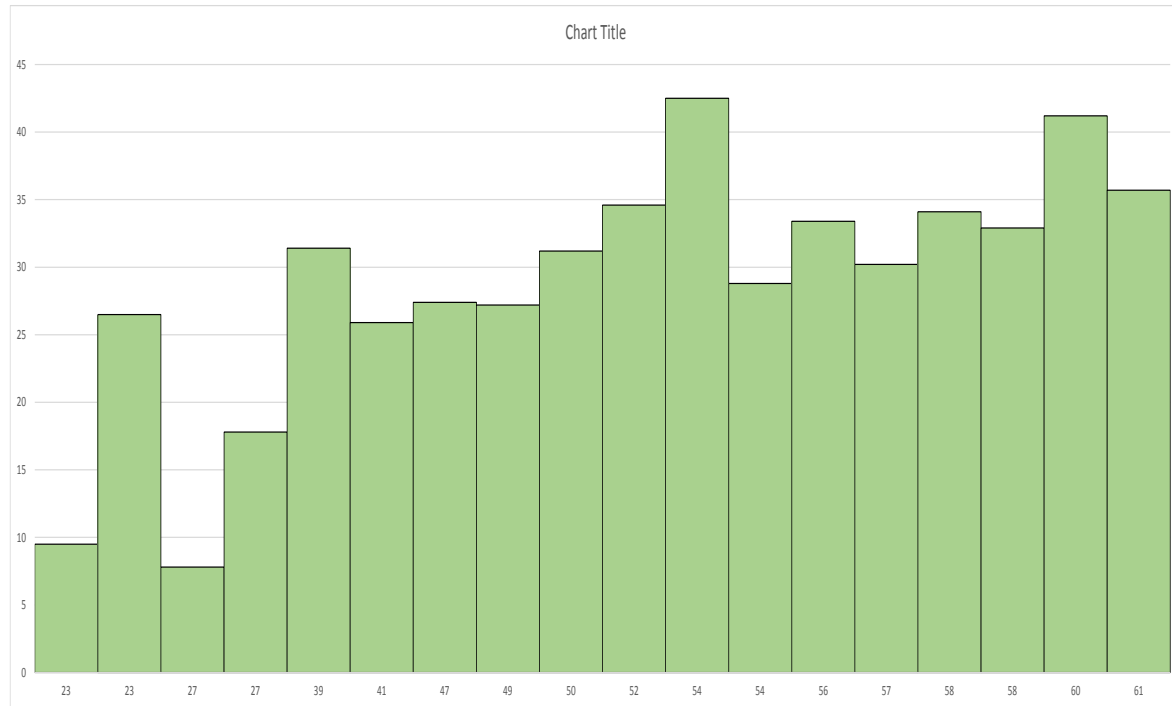
MEDIAN FOR AGE =  $(30.2 + 31.2)/2 = 30.7$

STANDARD DEVIATION OF AGE =  $\text{SQRL}((7.8^2 - 28.78^2) + \dots) = 9.25$

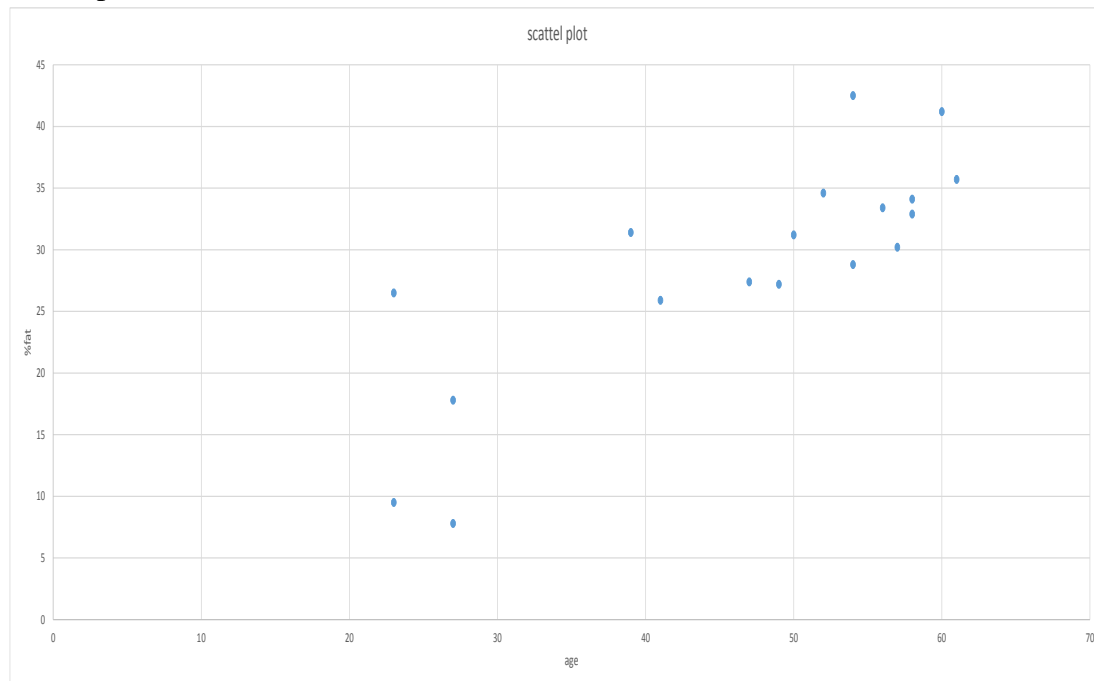
B)



### C) Histogram



### scatter plot



T3:

1-5	→	200
6-15	→	450
16-20	→	300
21-50	→	1500
51-80	→	700
81-110	→	44

طبق فرمول موجود

$$200+300+450+1500+700+44= 3194/2=1597 \rightarrow [21,50] \rightarrow 1500$$

$$200+450+300 = 950$$

$$\text{MEDIAN} = L1 + (((n/2) - (\sum \text{freq})_1) / \text{freq}) * w = 50 + ((1597 - 950) / 1500) * 30 = 62.94$$