DATA ANALYSIS I TYPE A

PARTIAL 1, APRIL 2015

Ex 1

x	f_i	x_i	$f_i x_i$	F_i
1 - 5	2	3	6	2
6-10	7	8	56	9
→ 11-15	8	13	104	17
16-20	3	18	54	20
	n = 20		220	

a) $\bar{x} = \frac{\sum f_i x_i}{n} = \frac{220}{20} = 11$

b) $Mdn = L_i + \frac{1}{f_i}\left(\frac{n}{2} - F_i\right) = 10.5 + \frac{5}{8}(10-9) = 10.5 + 0.625 = 11.125$

$\frac{n}{2} = \frac{20}{2} = 10$

$l = 15.5 - 10.5 = 5$

DATA ANALYSIS II

ex 2

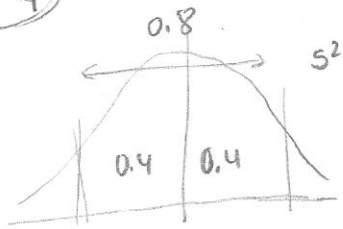
d) Bar chart or cumulative bar chart

e) $As = \frac{\bar{x} - Mo}{S_x} = \frac{4-4}{2} = 0$ Symmetric

f) $K_1 = \frac{\sum f_i (x_i - \bar{x})^4 / n}{S_x^4} - 3 = \frac{7108/250}{2^4} - 3 = \frac{28.432}{16} - 3 = 1.78 - 3 = -1.22$

$k_1 < 0$ → Platikurtic

ex 4



$z_1 = -1.28$ $\bar{x} = 6$ $z_2 = 1.28$

$x_1 = 4.2$ $x_2 = 7.8$

$s^2 = 2 \rightarrow s = \sqrt{2}$

$s = 1.41$

$z = \frac{x - \bar{x}}{s} \rightarrow -1.28 = \frac{x_1 - 6}{1.41}$

$-1.8 = x_1 - 6$

$4.2 = x_1$

$1.28 = \frac{x_2 - 6}{1.41}$

$1.8 = x_2 - 6$

$7.8 = x_2$

EXERCISE 3

z	fi	Σzfi	Fi
-1.15	3	-3.45	3
-0.5	4	-0.5·x	7
0.15	2	0.3	9
0.8	1	0.8	10
1.45	3	4.35	13
	N=13	Σ=0	

$z + 0.5x = 0$

$z = 0.5x$

$2/0.5 = x$

$4 = x$

POSITION:

a) $\frac{i(n+1)}{k} = \frac{80(13+1)}{100} = \frac{1120}{100} = 11.2$

$P_{80} = 1.45$