

74-114-2014

Class Int.	Class mark	f_A	f_B	f_{AB}	f_{AB}	f_{AB}	f_{AB}	f_{AB}	f_{AB}	f_{AB}
1-5	3	0	2	0	6					
6-10	8	7	4	56	32					
11-15	13	10	7	180	91					
16-20	18	2	20	56	360					
21-25	23	1	16	23	368					
26-30	28	5	10	140	280					
31-35	33	4	4	128	128					
		29	63	517	1,269					

Mean = $\frac{\sum f_A x}{N_A}$

Mean of Group A
 $\bar{x}_A = \frac{\sum f_A x}{N_A}$
 $= \frac{517}{29}$
 $= 17.83$

$f_A(x - \bar{x}_A)^2$	$f_B(x - \bar{x}_B)^2$
0	587.56
676.41	589.52
232.8	356.86
0.06	91.6
26.73	150.88
517.15	617.8
920.52	661.92
$\sum f_A(x - \bar{x}_A)^2 = 2,374.17$	$\sum f_B(x - \bar{x}_B)^2 = 3,035.74$

Mean of Group B

$\bar{x}_B = \frac{\sum f_B x}{N_B}$
 $= \frac{1,269}{63}$
 $= 20.14$

Variance of Group B
 $\text{Variance} = \frac{\sum f_B(x - \bar{x}_B)^2}{N_B}$
 $= \frac{3,035.74}{63}$
 $= 48.186$

Standard deviation of group B
 $= \sqrt{48.186}$
 $= 6.94$

Variance of Group A

$\text{Variance} = \frac{\sum f_A(x - \bar{x}_A)^2}{N_A}$
 $= \frac{2,374.17}{29}$
 $= 81.868$

Standard deviation of group A
 $= \sqrt{81.868} = 9.05$

Group B has the least variance distribution.