

a) Observed Frequency

Proposed	Lower	Middle	Top	Total
FOR	67	32	11	110
AGAINST	63	18	9	90
Total	130	50	20	200

Expected Frequency

$$E = \frac{R_i \times C_j}{n_{\text{Total}}}$$

	Lower	middle	top	Total
For	71.5	28.5	11	110
Against	58.5	21.5	9	90
Total	130	50	20	200

b) Observed vs the expected frequency

O	E	$(O-E)/E$ (2dp)
67	71.5	0.28
32	28.5	0.79
11	11	0
63	58.5	0.35
18	21.5	0.90
9	9	0
Total	$\frac{7}{200}$	$\frac{1}{200}$

$$\chi^2 = 2.27$$

$$5\% = 0.05$$

$$\begin{aligned} r &= (R-1)(C-1) \text{ df} \\ &= (2-1)(3-1) \text{ df} \\ &= 2 \end{aligned}$$

$$5.991$$

If calculated  $\chi^2 > 5.991$  reject  $H_0$   
 If calculated  $\chi^2 < 5.991$  accept  $H_0$

$H_0$  - the companies employee are ~~are~~ homogenous with respect to the opinion they propose

$H_1$  - The companies employee are not homogenous with respect to the opinion they propose

c. conclusion

Since  $\chi^2 = 2.27 < 5.99$ , we accept  $H_0$  which means employees are homogenous