

| Hypothesis Tests | Binomial Distribution | Normal Distribution | Correlation Coefficient |
|------------------|---|---|--|
| Notes | Assume probability is as it says in initial problem (H_0) and investigate how likely a set of results is. If is sufficiently unlikely, reject H_0 and accept H_1 . | Assume mean takes value in original statement and investigate the likelihood of new mean happening (or more extreme result) usually with results from a sample – remember to divide variance by n or standard deviation by \sqrt{n} . If sufficiently unlikely, reject H_0 and accept H_1 . | Assume there is no correlation (H_0) and find PMCC for data given. Use the statement to determine H_1 . Use table to decide how strong the correlation needs to be for there to be enough evidence to reject H_0 . |
| H_0 | $P = p$ <i>Probability is what it says in initial set-up</i> | $\mu = a$ <i>Probability is what it says in initial set-up</i> | $\rho = 0$ <i>PMCC = 0 (no correlation)</i> |
| H_1 | $P > p$ $P < p$ $P \neq p$ <i>Probability is greater than/ less than/ different to initially stated.</i> | $\mu > a$ $\mu < a$ $\mu \neq a$ <i>Mean is greater than/ less than/ different to initially stated.</i> | $\rho > 0$ $\rho < 0$ $\rho \neq 0$ <i>PMCC is greater than/ less than/ not equal to 0. (Correlation is positive/ negative/ there is some sort of correlation which can come from belief of no correlation)</i> |
| Conclusion | <ul style="list-style-type: none"> - Refer to probability found in relation to level of significance for test (remember to divide by two if two-tailed) - There is/ is not enough evidence to support H_0, - therefore we accept/reject H_0 and reject/ accept H_1, - concluding 'context' | <ul style="list-style-type: none"> - Refer to probability found in relation to level of significance for test (remember to divide by two if two-tailed) - There is/ is not enough evidence to support H_0, - therefore we accept/reject H_0 and reject/ accept H_1, - concluding 'context' | <ul style="list-style-type: none"> - Refer to value in table using $>$, $<$ sign and if higher/ lower value conclude: - There is enough/ insufficient evidence to suggest there is correlation present, - therefore we reject/ accept H_0 and accept/ reject H_1, - concluding 'context' (ie as x varies, y does/ does not varies – but in more context) |