A note made to plan calculator results, from December 2015

Each test consists of: [_x_], e.g. Coin toss
A success is getting [_y_], e.g. Heads
Number of tests, n: [_n_]

p is the probability that *[an individual test {x}]* from the population gives {y}. X is the number of {y} in a sample size on {n}

H_0: p = [___] must be 0 <= ,. <= 1
H_1: p [> or < or !=] (cases 1, 2 or 3)

Assume H0 is true
Then X~B(n, p)
“X is distributed binomially with n = …, p = …
Now carry out the test: r = [___]

1) P(X>= r)
    a) if >, <= then accept H0
    b) else <, >= then reject H0
2) P
3) E(X) = np
    a) if r > E(X) then
        i) P(X >= r) compare to significance level / 2
    b) if r < E(X) then
        i) P(X<=r) compare to significance level / 2
    c) ALTERNATIVE
        i) if P(X >= r) or P(X <= r) < significance level / 2
            (1) then reject H0
            (2) else accept

Conclusions:
Accept or reject H0

- If accept H0
    - There is not enough evidence to suggest that the number of {y} in the population is:
        - (1: Greater than, 2: Less than, 3: Different to)
            - Expected
- If reject H0
    - There is enough evidence to suggest to suggest the number of y in the population may be
        - (1: Greater than, 2: Less than, 3: Different to)
            - Expected