Assumptions

\( H_0: \ p = p_0 \)

A binomial experiment with \( n = \) _____ was performed. Since \( np \) and \( nq \) are both at least 5, the sample is large enough to indicate that the sampling distribution of \( \hat{p} \) is approximately normal.

\( H_0: \ p_1 = p_2 \)

Independent binomial experiments with \( n_1 = \) _____ and \( n_2 = \) _____ were performed. Since \( n_1p_1, n_1q_1, n_2p_2 \) and \( n_2q_2 \) are all at least 5, the samples are large enough to indicate that the sampling distributions of \( \hat{p}_1 \) and \( \hat{p}_2 \) are both approximately normal.

\( H_0: \ \mu = \mu_0 \)

Since \( n \geq 30 \), the sampling distribution of \( \bar{x} \) is approximately normal.

OR

\( X \) is normally distributed.

\( H_0: \ \mu_1 - \mu_2 = D_0 \)

The samples were chosen independently and randomly. Since \( n_1 \) and \( n_2 \geq 30 \), the sampling distributions of \( \bar{x}_1 \) and \( \bar{x}_2 \) are approximately normal.

OR

The samples were chosen independently and randomly. Both \( X_1 \) and \( X_2 \) are normally distributed. Their variances are equal.

OR

The samples were chosen independently and randomly. Both \( X_1 \) and \( X_2 \) are normally distributed.

\( H_0: \ \mu_0 = \mu_1 - \mu_2 = \mu_{D0} \)

Since \( n \geq 30 \), the sampling distribution of \( \bar{x}_0 \) is approximately normal.

OR

\( X_0 = X_1 - X_2 \) is normally distributed.

\( H_0: \ p_i = p_{i0} \) for each \( i \)

The sample was chosen randomly and independently. The expected number in each cell is at least 5.

\( H_0: \ p_{i,j} = p_{i0}p_{j} \) for each \( i \) and \( j \)

The \( j \) samples were randomly and independently chosen. The expected number in each cell is at least 5.

\( H_0: \ p_{i,j} = p_ip_j \) for each \( i \) and \( j \)

The objects were randomly and independently chosen from the population of interest. The expected number in each cell is at least 5.