

1)

H_0 : Color and shape are independent.

H_a : Color and shape are dependent.

chi-square = 5.90, $p = 66\%$, We do not have evidence that color and shape of Fortunate Shapes cereal are dependent.

2)

H_0 : There is no relationship between size and type of adult salmon.

H_a : There is a relationship between size and type of adult salmon.

chi-square = 11.47, $p = 2.2\%$, We have evidence that there is a relationship between size and type of adult salmon.

Large King (2.80, 10 fewer than predicted) Small Pink (2.22, 7 fewer than predicted)

Large Silver (1.98, 12 more than predicted) are among suspicious entries contributing the largest values to chi-square.

3)a)

H_0 : All four states have the same proportion of people who believe aliens have landed.

H_a : The four states do not all have the same proportion of people who believe aliens have landed.

b) chi-square = 24.7, $p = v.$ small (0.000017), we have very strong evidence that these four states do not all have the same proportion of people who believe aliens have landed.

c) Nevada is most suspicious, its two contributions contribute about 17 to the total chi-square. (Area 51, anyone?)