(page 147 problem 33) The Pew Research Center conducts surveys regularly asking respondents which political party that lean toward. Among their results is the following table relating preferred political party and age.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Republican | Democrat | Neither | Total |
| 18-29 | 318 | 424 | 73 |  |
| 30-49 | 991 | 1058 | 203 |  |
| 50-64 | 1260 | 1407 | 264 |  |
| 64+ | 1136 | 1087 | 193 |  |
| Total |  |  |  |  |

1. Fill in the Total row and column
2. What percent of people surveyed were Republicans?
3. What percent of people surveyed were under 30 or over 65?
4. What percent of the people classified as “Neither” were under 30?
5. What percent of people under 30 were classified as “Neither”?
6. Do these result suggest that the preference depends on the age?

A company that markets build-it-yourself furniture sells a computer desk that is advertised with the claim “less than an hour to assemble”. However, through postpurchase surveys the company has learned that only 25% of its customers succeeded in building the desk in under an hour. The mean time was 1.29 hours. The company assumes that consumer assembly time follows a Normal model.

1. Find the standard deviation of the assembly time model.
2. What assembly time should the company quote in order that 60% of customers succeed in finishing the desk by then?
3. Wishing to maintain the “less than an hour” claim, the company hopes that revising the instructions and labeling the parts more clearly can improve the 1-hour success rate to 60%. If the standard deviation stays the same, what new lower mean time does the company need to achieve?

Here are the winning margins for the 12 Super Bowl games (i.e., by how many points does the winning team outscore the losers)

7, 27, 3, 27, 3, 3, 11, 12, 3, 4, 14, 6

1. Find the median
2. Find the quartiles
3. Find the mean
4. Find the standard deviation

Assume the Cholesterol levels of adult American women can be described by a Normal model with a mean of 188 mg/dL and a standard deviation of 24.

1. What percent of adult women do you expect to have cholesterol levels over 200 mg/dL?
2. Between 150 and 170 md/dL?
3. Above what value are the highest 15% of women’s cholesterol level?