Homework 2

The following questions are based on the US census, and consist of a random sample of 5000 people who submitted the "Long form". The sample was chosen from the Los Angeles area.

1.

a) About what percentage of this sample was taken from 1980?
b) What does this graph say about the change of racial demographics in Los Angeles in the last twenty years?

2*. The histogram below shows total family income in 2000.

a) Describe the distribution of income of LA residents in 2000.

   median \( (\cdot) = 43200 \)

   Census_year > 1990

a) Describe the distribution of income of LA residents in 2000.
b) About what percent of the sample made more than $100,000? (The scale on the y-axis is relative frequency, i.e. "0.02" means 2%.)

c) Suppose the "poverty line" were set to fall at the lowest 10%. What income would that be?

d) Sketch a boxplot. Label all important features.

e) True or false and explain: Most families have below the average income.

f) Describe how the distribution of incomes in 1990 would compare to this.

3) The boxplot consists of how long respondents reported that it took to commute to work. Data exist only for LA-Long Beach residents in 2000.

![Boxplot](image)

Census_year > 1990

a) Describe the distribution of commuting times.
b) What's the first quartile?
c) What would be the better summary of the center of the distribution, or does it matter?

4) Describe the shape you could plausibly expect for age, and explain why this is plausible.
   • p. 66:3,
   • p. 70: #2 answer question and describe the shape of the distribution.
   • p. 72: 2*
   • p. 91: 1,2,6,