Unit 4 Review - Statistical Literacy   Text p. 252#1-3, 5-11, 13-15

1. The board members of a provincial organization receive a car allowance for travel to meetings. Here are the distances the board logged last year (in kilometres).
   a) Determine the mean, median and mode of this data set
   b) Determine the quartiles for this data set.
   c) Kelly's mileage is in the 75th percentile.
      i.   What does this percentile mean?
      ii. What was Kelly's mileage last year?

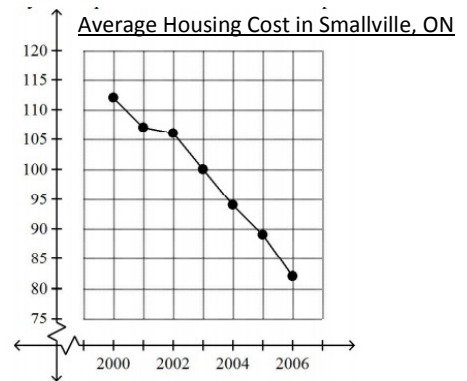| 44	18	125	80
75	260	96	110
63	42	35	68
72	52	52	150

2. Suppose the price of an item is $155. Calculate the percent price increase from a base price of $130. Round to the nearest percent.

3. Describe each type of sampling: stratified, systematic, cluster, convenience, volunteer.
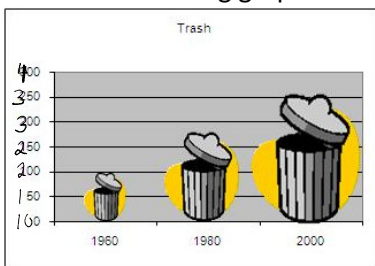   Which forms of sampling are unbiased?

4. An advertisement made the claim, "In a recent side-by-side blind taste test, more people preferred Cool Cola over Choice Cola." List 3 questions you can ask to challenge or validate this claim.

5. Use the graph on the right to answer the questions.
   a) What is the price index measuring?
   b) What was the base year? _____
   c) What was the index value in 2004? _____
   d) What does this index value in 2004 mean?

Average Housing Cost in Smallville, ON

6. Is the following graph misleading? If so, explain why.

7. Is this survey question biased? If it is, explain why.
Soy is a protein source without the cholesterol and saturated fats of meat. Should the government subsidize soy farmers? Yes No

8. A snack food company wants to evaluate people's responses to a new cereal bar. Which group should collect the data? Why?
a) The marketing department of the company   b) An outside agency specializing in market surveys.

9. A mayor wins a town's election with 79% of the vote. However, the election officials announce that only 37% of eligible voters cast ballots. In his victory speech, the mayor says that "79% of the citizens of our town shared my vision for our future." Is the mayor's statement justified? Why?

10. The graph shows the BC Election Results for 2013.
    a) What percentage of respondents did not vote for the liberals?
    b) The poll's margin of error is 2.1%, 19 times out of 20. Explain what this statement means.

2013 BC Election Results
44.1   39.8   8.1   5   3
Today's BC Liberals   NDP   green   British Columbia's Conservatives   Other