

Solutions

1. Which of the following is microdata?

- A batting averages for a baseball team
- B the height of each person in your class
- C monthly sales for each store in a chain
- D number of births in each country in 2013

B) Microdata is an individual set of data about a single respondent

4. In each of the following cases, determine whether the data are primary or secondary.
- a) Your town sends a survey to each household and collects the data.
 - b) After collecting the survey from part a), your town publishes the average number of people per house on each street.
 - c) The newspaper reports the salary of every city council member.
 - d) A magazine lists the total number of home sales each month for the last year.

e)

Person ID #	Age	Job	Hours Worked
345	24	Shipper	38
231	38	Custodian	42
124	29	Mail clerk	40

f)

Grade	Percent of Students Who Take the Bus to School	
	Male	Female
9	78	82
10	85	80
11	74	81
12	65	64

- a) Primary - the data is collected directly by the town.
- b) Secondary - the data has already been collected and summarised.
- c) Annoyingly, this could be either. Primary if collected by the newspaper. Secondary if the data is freely available elsewhere.
- d) Secondary - the data has already been summarised.
- e) Primary - the data is microdata which has not been summarised.
- f) Secondary - the data has already been summarised.

6. Thinking The data below represent all the earthquakes over magnitude 4 on the Richter scale that occurred in North or South America in 2012.
- a) A total of 48 earthquakes over magnitude 4 occurred all over the world. What percent were in North or South America?
 - b) Where in Canada did the only earthquake above magnitude 4 occur? Was this a big earthquake in comparison to the others?
 - c) Represent this information in a graph. Why did you choose that graph type?

Month	Day	Name	Depth (km)	Magnitude
1	30	Peru: ICA	43	6.4
3	20	Mexico: Guerror, Oaxaca	20	7.4
3	25	Chile: Parral, Santiago	41	7.2
4	17	Chile: Valparaiso	29	6.7
5	14	Chile: Arica; Peru: Tacna	10	6.3
5	19	Brazil: Montes Claros	10	4.1
8	27	El Salvador: Off the coast	28	7.3
9	5	Costa Rica: Nicoya	35	7.6
10	28	Canada: Queen Charlotte Islands	14	7.7
11	7	Guatemala: San Marcos, San Cristobal Cochu	24	7.3

Source: National Geophysical Data Center

a) 10 earthquakes of magnitude 4 or more in North or South America from a total of 48 around the world.

$$= (10/48) \times 100\%$$

$$= 21\%$$

b) The only earthquake in Canada that was greater than 4 was in Queen Charlotte Islands. Yes, it was a big earthquake. In fact, it was the biggest one in North or South America in 2012.

c) If using a dot plot, you can see how many earthquakes there were of a particular magnitude.

