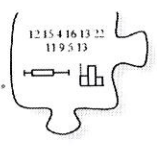


52

8.1.2 What is a typical value?

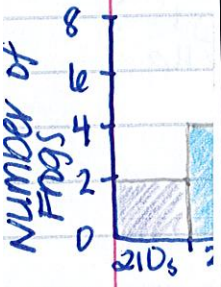


Choosing Mean or Median

8-6 JUMPING FROG JUBILEE: In Lesson 1.1.4, you examined results of the Calaveras County frog-jumping contest.



	2008		2009
Frog Name	Jump Length	Frog Name	Jump Length
Skeeter Eater	231.5 in.	For the Sign	252 in.
Warped	230 in.	Alex Frog	236.5 in.
Greg Crome Dome	229 in.	Shakit	231.5 in.
R.G.	227 in.	Six-Mile Shooter	226.75 in.
The Well Ain't Dry	221.5 in.	Spare the Air Every Day	223.25 in.
Winner	220.5 in.	Hooper	223.25 in.
7 lb 8 oz. Baby	217 in.	Jenifer's Jumper	222.25 in.
Delbert Sr.	216.5 in.	Dr. Frog	185.25 in.



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lot

neir

} Median

} Range

1.125 } Mean

a) Your first job is to make a graphical representation of the data. Many statisticians say that the first and most important step in analyzing any data is to make a graphical representation. With your class, make a histogram of the data for each year. Why is a histogram a good choice?

b) Find the median for each year.

c) Find the range for each year.

d) Find the mean for each year. Get a calculator from your teacher, but show all steps in your notebook.

e) Were the jumps all about the same, or were some jumps outliers? Name any outliers and explain why you think they are outliers.

8-7. CHOOSING MEAN OR MEDIAN: It is important to look at the distribution of the data when deciding whether to use the mean or the median. In 2008, which represents a "typical" jump better, the mean or the median?

- a) What if the 9th-place jump in 2008 was very small, such as 160 inches? Without using your calculator, make a prediction. How does adding this outlier affect the mean and the median of the 2008 data?
- b) Use your calculator to test your prediction from part (a).
- c) Does the mean or does the median better represent a "typical" jump in 2008?

8-8. When does the median represent a typical jump better than the mean does?

The median is better when there are outliers, otherwise it doesn't matter.

Sum of all values in 2009 = 1,800.75 ÷ 8 = 225.09

e) In 2008, I don't think there were any outliers. In 2009, I think 185.25 and 252 were outliers because they are separate from the rest.

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b) 7
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2
20

c) 2
- 2
1

d) 8
7

stand out

"Bar Graph" without gaps

Middle Difference
Avg.

SKIP

