

Starter 8 MAR 2017

Calculate the relative frequencies.

Graphical Descriptions of Data

12, 14, 13, 14, 16, 14, 14, 17, 13, 10, 13, 18,
 12, 15, 14, 15, 15, 14, 14, 13, 15, 16, 15, 12,
 13, 16, 11, 15, 12, 13, 12, 11, 13, 14, 14

x	10	11	12	13	14	15	16	17	18	total
f	1	2	5	7	9	6	3	1	1	35

Handwritten calculations for relative frequencies:
 $\frac{1}{35} \times 100 = 2.9\%$
 $\frac{2}{35} \times 100 = 5.7\%$
 $\frac{5}{35} \times 100 = 14.3\%$
 $\frac{7}{35} \times 100 = 20\%$
 $\frac{9}{35} \times 100 = 25.7\%$
 $\frac{6}{35} \times 100 = 17.1\%$
 $\frac{3}{35} \times 100 = 8.6\%$
 $\frac{1}{35} \times 100 = 2.9\%$
 $\frac{1}{35} \times 100 = 2.9\%$

Measures of Central Tendency

• **Central Tendency**

Numbers that help us understand the center of a set of data

The 4 Measures of Central Tendency

1. Mode
2. Median
3. Mean
4. Quartiles

Measures of Central Tendency

1. Mode

The mode of a set of data is the number that occurs the most frequently. If two pieces of data occur at the same rate, then both are the mode. If more than two pieces of data occur at the same rate there is no mode.

91, 98, 87, 76, 100, 45, 72, 85, 92, 88, 87, 90, 91, 66, 100, 99, 67, 85, 79, 80, 85

100, 100, 99, 98, 92, 92, 91, 90, 88, 87, 87, 85, 85, 85, 80, 79, 76, 72, 67, 66, 45

Measures of Central Tendency

1. Mode

100, 100, 99, 98, 92, 92, 91, 90, 88, 87, 87, 85, 85, 85, 80, 79, 76, 72, 67, 66, 45

Stem	Leaf
4	5
6	6 7
7	2 6 9
8	0 5 5 5 7 7 8
9	0 1 2 2 8 9
10	0 0

So we can now see that 85 is the mode

Measures of Central Tendency

2. Median

If we arrange a set of data in increasing order, the median is the middle value in the list of numbers. However, there are two cases to consider:

1. If there is an odd number of numbers, then the median is the number in the middle position.
2. If there is an even number of numbers, then the median is the average of the two middle numbers

Measures of Central Tendency

2. Median

91, 98, 87, 76, 100, 45, 72, 85, 92, 88, 87, 90, 91, 66, 100, 99, 67, 85, 79, 80, 85

100, 100, 99, 98, 92, 92, 91, 90, 88, 87, 87, 85, 85, 85, 80, 79, 76, 72, 67, 66, 45

Measures of Central Tendency

3. Mean

If a data set contains n data values, the mean \bar{x} of the data set is

$$\bar{X} = \frac{\sum x}{n}$$

sum all values
n — number of values in the set.

Measures of Central Tendency

Find the mean for hte last problem

$$\bar{X} = \frac{91+98+87+76+100+45+72+85+92+88+87+90+91+66+100+99+67+85+79+80+85}{21}$$

$$\bar{X} = \frac{1763}{21} = 83.95$$

Copy & answer

8, 7, 4, 10, 15, 12, 11, 7, 6, 7,
10, 10, 12, 7

Mode = _____

Sm----Large

median = _____

mean = _____