Exercise

Find the mean: 9.4, 11.3, 10.5, 7.4, 9.1, 8.4, 9.7, 5.2, 1.1, 4.7

Solution

$$\bar{x} = \frac{9.4+11.3+10.5+7.4+9.1+8.4+9.7+5.2+1.1+4.7}{10}$$

$$= 7.68$$

Exercise

Find the median: 28.4, 9.1, 3.4, 27.6, 59.8, 32.1, 47.6, 29.8

Solution

$$\{3.4,\ 9.1,\ 27.6,\ 28.4,\ 29.8,\ 32.1,\ 47.6,\ 59.8\}$$

$$\textbf{\textit{Median}} = \frac{28.4+29.8}{2} = 29.1$$

Exercise

Find the mode: 16, 15, 13, 15, 14, 13, 11, 15, 14

Solution

Mode: 15

Exercise

Find the mean and median: 8, 10, 16, 21, 25

Solution

Mean = 16 ***Median*** = 16

Exercise

Find the mean and median: 67, 89, 78, 86, 100, 96

Solution

Mean = 86 ***Median*** $= \frac{86+89}{2} = 87.5$

Exercise

Find the mean and median: 30,200; 23,700; 33,320; 29,410; 24,600; 27,750; 27,300; 32,680

Solution

Mean = 28,8456 ***Median*** $= \frac{27,750 + 29,410}{2} = 28,580$

Exercise

Find the mean and median: 15.3, 27.2, 14.8, 16.5, 31.8, 40.1, 18.9, 28.4, 26.3, 35.3

Solution

Mean = 25.43 ***Median*** $= \frac{26.3 + 27.2}{2} = 26.75$

Exercise

The number of nations participating in the winter Olympic games, is given below.

Year	*Participating*
1968	37
1972	35
1976	37
1980	37
1984	49
1988	57
1992	64
1994	67
1998	72
2002	77
2006	85

Find: Mean, Media, and Mode

Solution

a. Mean: $\bar{x} = \frac{37+35+37+37+49+57+64+67+72+77+85}{11} \approx 56.1$

b. Media is **57** $35, 37, 37, 37, 49, 57, 64, 67, 72, 77, 85$

c. Mode: **37**

Exercise

Compute the mean for the grouped sample data listed in below table.

Class Interval	Frequency
0.5 – 5.5	6
5.5 – 10.5	20
10.5 – 15.5	18
15.5 – 20.5	4

Solution

Class Interval	x_i	Frequency
0.5 – 5.5	3	6
5.5 – 10.5	8	20
10.5 – 15.5	13	18
15.5 – 20.5	18	4
		48

$$\bar{X} = \frac{3(6)+8(20)+13(18)+18(4)}{48} \approx 10.08$$

Exercise

Compute the mode(s), median, and mean for each data set:

a) 2, 1, 2, 1, 1, 5, 1, 9, 4

b) 2, 5, 1, 4, 9, 8, 7

c) 8, 2 , 6, 8, 3, 3, 1, 5, 1, 8, 3

Solution

a) 1, 1, 1, 1, 2, 2, 4, 5, 9

Mode: 1

Median: 2

Mean: $\frac{1+1+1+1+2+2+4+5+9}{9} \approx 2.89$

b) 1, 2, 4, 5, 7, 8, 9

Mode: None

Median: 5

Mean: $\frac{1+2+4+5+7+8+9}{7} \approx 5.14$

c) 1, 1, 2, 3, 3, 3, 5, 6, 8, 8, 8

Mode: 3, 8

Median: 3

Mean: $\frac{1+1+2+3+3+3+5+6+8+8+8}{11} \approx 4.36$

Exercise

U.S. wheat prices and production figures for a recent decade are given in the following table.

Year	***Price*** **(*$ per bushel*)**	***Production*** **(*millions of bushels*)**
1996	4.30	2277
1997	3.38	2481
1998	2.65	2547
1999	2.48	2296
2000	2.62	2228
2001	2.78	1947
2002	3.56	1606
2003	3.40	2345
2004	3.40	2158
2005	3.45	2105

Find the mean and median for the following

a) Price per bushel of wheat

b) Wheat production

Solution

a) ***Mean*** = 32.02 ***Median*** $= \frac{3.38 + 3.40}{2} = 3.39$

b) ***Mean*** = 2199 ***Median*** $= \frac{2228 + 2277}{2} = 2252.5$