

Statisztika feladatok

1. Határozd meg az alábbi adatok terjedelmét, mediánját és móduszát!

a) 14; 13; 12; 12; 12; 15; 13; 12

71
3 ; 12,5 ; 8

b) 22; 18; 24; 19; 26; 21; 19; 25; 20; 23; 19; 18

61
8 ; 20,5 ; 8

c) 11; 15; 14; 10; 10; 10; 14; 11; 10; 10; 16

10
9 ; 11 ; 9

d) 18; 17; 20; 15; 17; 16; 16; 16; 21

91
9 ; 17 ; 9

e) 18; 20; 22; 20; 20; 22; 22; 18; 21

22,02
4 ; 20 ; 20

f) 19; 19; 23; 20; 18; 24; 22; 22; 19; 19

61
9 ; 19,5 ; 6

g) 14; 16; 21; 17; 20; 17; 20; 18; 16; 20; 20

20
7 ; 18 ; 7

h) 17; 19; 20; 19; 17; 24; 24; 17; 21; 23; 17

17
7 ; 19 ; 7

i) 11; 10; 12; 12; 11; 12; 12; 11

12
2 ; 11,5 ; 2

j) 8; 6; 5; 4; 8; 5; 2; 7; 1; 9; 1; 4

8
8 ; 5 ; 4,5 ; 1

k) 18; 19; 18; 17; 19; 15; 18; 14; 17; 17; 14

17
5 ; 17 ; 18

l) 15; 17; 17; 17; 14; 16; 14; 14; 15; 17

17
3 ; 15,5 ; 17

m) 14; 13; 14; 17; 16; 12; 13; 15; 12

14
5 ; 14 ; 12

n) 18; 19; 16; 16; 21; 21; 19; 15; 18; 22; 19; 16

16
7 ; 18,5 ; 19

o) 8; 12; 8; 14; 10; 13; 9; 14; 13; 14; 11

14
6 ; 12 ; 9

p) 5; 8; 5; 5; 2; 6; 7; 6; 4; 6; 9

9
7 ; 6 ; 5,5 ; 9

q) 13; 15; 14; 12; 11; 11; 11; 13; 11; 12

11
4 ; 12 ; 11

r) 14; 17; 19; 16; 20; 20; 22; 15; 17; 21; 18; 22

17,02
8 ; 18,5 ; 17

s) 7; 1; 4; 2; 5; 4; 1; 6; 2; 7; 4; 5

4
6 ; 4 ; 9

t) 5; 8; 8; 8; 5; 6; 5; 7; 6

8
3 ; 6 ; 5,5 ; 8

u) 19; 14; 17; 16; 20; 17; 17; 19; 19; 15; 21; 20

17
7 ; 18 ; 16

v) 19; 19; 23; 18; 19; 18; 22; 23; 17; 16; 16

19
7 ; 19 ; 6

w) 12; 10; 11; 8; 11; 11; 8; 9

11
4 ; 10,5 ; 11

x) 13; 13; 10; 12; 12; 10; 10; 14

10
4 ; 12 ; 10

y) 13; 11; 14; 10; 15; 15; 13; 10; 15; 10; 10; 11

10
5 ; 12 ; 10

z) 7; 10; 10; 8; 6; 7; 10; 10; 11; 8; 11

10
5 ; 10 ; 10

2. Határozd meg az alábbi adatok átlagát ($\bar{x}$), szórását (σx), mediánját ($\tilde{x}$)!

a) 7; 18; 14; 8; 18; 19; 13; 23; 25; 14

$$\begin{aligned}\tilde{x} &= 16 \\ \sigma x &= 5,5 \\ \bar{x} &= 15,9\end{aligned}$$

b) 22; 21; 25; 29; 18; 25; 32; 22; 21; 18

$$\begin{aligned}\tilde{x} &= 22 \\ \sigma x &= 4,29 \\ \bar{x} &= 23,3\end{aligned}$$

c) 27; 34; 23; 32; 31; 23; 28; 34; 36; 34

$$\begin{aligned}\tilde{x} &= 31,5 \\ \sigma x &= 4,79 \\ \bar{x} &= 30,2\end{aligned}$$

d) 35; 19; 33; 24; 48; 47; 20; 24; 28; 24

$$\begin{aligned}\tilde{x} &= 29 \\ \sigma x &= 9,89 \\ \bar{x} &= 30,2\end{aligned}$$

e) 29; 25; 30; 20; 26; 26; 20; 31; 31; 22

$$\begin{aligned}\tilde{x} &= 29 \\ \sigma x &= 4,06 \\ \bar{x} &= 26\end{aligned}$$

f) 26; 26; 23; 27; 15; 22; 17; 15; 25; 22

$$\begin{aligned}\tilde{x} &= 22,5 \\ \sigma x &= 4,35 \\ \bar{x} &= 21,8\end{aligned}$$

g) 33; 38; 40; 24; 22; 37; 30; 37; 25; 27

$$\begin{aligned}\tilde{x} &= 31,5 \\ \sigma x &= 6,22 \\ \bar{x} &= 31,3\end{aligned}$$

h) 10; 10; 7; 4; 4; 9; 14; 4; 11; 6

$$\begin{aligned}\tilde{x} &= 8 \\ \sigma x &= 3,26 \\ \bar{x} &= 7,9\end{aligned}$$

i) 17; 20; 15; 21; 11; 16; 13; 26; 18; 13

$$\begin{aligned}\tilde{x} &= 16,5 \\ \sigma x &= 4,24 \\ \bar{x} &= 17\end{aligned}$$

j) 8; 13; 15; 14; 16; 12; 13; 12; 12; 8

$$\begin{aligned}\tilde{x} &= 12,5 \\ \sigma x &= 2,49 \\ \bar{x} &= 12,3\end{aligned}$$

k) 6; 20; 14; 6; 8; 14; 13; 15; 19; 12

$$\begin{aligned}\tilde{x} &= 13,5 \\ \sigma x &= 4,62 \\ \bar{x} &= 12,7\end{aligned}$$

l) 4; 5; 12; 14; 13; 12; 14; 6; 14; 14

$$\begin{aligned}\tilde{x} &= 12,5 \\ \sigma x &= 3,89 \\ \bar{x} &= 10,8\end{aligned}$$

m) 18; 18; 17; 9; 19; 13; 14; 19; 17; 13

$$\begin{aligned}\tilde{x} &= 17 \\ \sigma x &= 3,13 \\ \bar{x} &= 15,7\end{aligned}$$

n) 24; 19; 30; 28; 20; 22; 30; 26; 25; 28

$$\begin{aligned}\tilde{x} &= 25,5 \\ \sigma x &= 3,73 \\ \bar{x} &= 25,2\end{aligned}$$

o) 7; 15; 11; 16; 16; 25; 24; 23; 22; 20

$$\begin{aligned}\tilde{x} &= 18 \\ \sigma x &= 5,62 \\ \bar{x} &= 17,9\end{aligned}$$

p) 17; 9; 14; 12; 9; 20; 10; 15; 12; 17

$$\begin{aligned}\tilde{x} &= 13 \\ \sigma x &= 3,55 \\ \bar{x} &= 13,5\end{aligned}$$

q) 17; 35; 44; 26; 25; 20; 39; 39; 26; 43

$$\begin{aligned}\tilde{x} &= 30,5 \\ \sigma x &= 9,26 \\ \bar{x} &= 31,4\end{aligned}$$

r) 3; 15; 13; 12; 16; 5; 16; 10; 14; 6

$$\begin{aligned}\tilde{x} &= 12,5 \\ \sigma x &= 4,53 \\ \bar{x} &= 11\end{aligned}$$

s) 27; 26; 15; 17; 28; 25; 31; 23; 33; 19

$$\begin{aligned}\tilde{x} &= 25,5 \\ \sigma x &= 5,60 \\ \bar{x} &= 24,4\end{aligned}$$

t) 23; 38; 23; 36; 21; 37; 43; 26; 25; 19

$$\begin{aligned}\tilde{x} &= 25,5 \\ \sigma x &= 8,06 \\ \bar{x} &= 29,1\end{aligned}$$

u) 15; 20; 17; 21; 17; 26; 19; 20; 28; 20

$$\begin{aligned}\tilde{x} &= 20 \\ \sigma x &= 3,79 \\ \bar{x} &= 20,3\end{aligned}$$

v) 31; 29; 12; 29; 34; 14; 19; 26; 32; 15

$$\begin{aligned}\tilde{x} &= 27,5 \\ \sigma x &= 7,85 \\ \bar{x} &= 24,1\end{aligned}$$

w) 15; 11; 19; 22; 16; 19; 17; 11; 21; 18

$$\begin{aligned}\tilde{x} &= 17,5 \\ \sigma x &= 3,59 \\ \bar{x} &= 16,9\end{aligned}$$

x) 14; 29; 23; 28; 30; 37; 13; 28; 37; 36

$$\begin{aligned}\tilde{x} &= 28,5 \\ \sigma x &= 8,21 \\ \bar{x} &= 27,5\end{aligned}$$