

# Statisztika feladatok

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

a) 15; 11; 12; 12; 12; 14; 13; 14; 14

4 ; 13;  
12; 14

b) 6; 3; 4; 5; 8; 9; 7; 8; 5; 5

5 ; 5;  
9

c) 22; 18; 20; 15; 16; 23; 19; 22; 23; 24; 21; 20

9 ; 20;  
22; 23; 24

d) 11; 7; 7; 6; 9; 6; 11; 8; 12

9 ; 8;  
11; 12; 6

e) 9; 8; 8; 8; 9; 5; 5; 8; 8; 11

8 ; 8;  
9

f) 16; 17; 16; 19; 20; 19; 16; 19; 18; 22

6 ; 16;  
18; 19; 9

g) 7; 6; 8; 6; 6; 9; 7; 6; 6

9 ; 6;  
3

h) 13; 12; 15; 11; 13; 15; 10; 12; 10; 12; 12

5 ; 12;  
12

i) 22; 23; 21; 24; 24; 20; 22; 23; 25; 20; 24; 23

5 ; 23;  
23; 24

j) 16; 17; 16; 16; 18; 16; 19; 19

3 ; 16;  
19; 9

k) 18; 18; 18; 20; 20; 18; 19; 19

2 ; 18;  
18; 19

l) 5; 7; 6; 6; 5; 7; 7; 5

2 ; 6;  
5; 7

m) 2; 2; 3; 6; 2; 5; 4; 4

4 ; 3;  
5; 2

n) 15; 16; 14; 13; 13; 15; 14; 14; 16; 12; 9

7 ; 14;  
14

o) 7; 5; 7; 8; 8; 9; 11; 9; 10; 6

6 ; 8;  
7; 9

p) 5; 6; 4; 5; 3; 7; 6; 3

4 ; 5;  
5; 6; 3

q) 11; 15; 15; 16; 12; 16; 15; 15; 15; 13; 11

5 ; 15;  
15

r) 22; 16; 16; 21; 22; 22; 18; 17; 19; 22; 22; 19

9 ; 20;  
22

s) 12; 14; 12; 15; 13; 15; 14; 12; 13; 13

3 ; 13;  
12; 13

t) 2; 7; 6; 6; 3; 7; 5; 3; 2; 6

5 ; 5;  
9

u) 14; 15; 10; 13; 11; 8; 11; 9; 11; 10

7 ; 11;  
11

v) 20; 18; 20; 20; 20; 20; 20; 18

2 ; 20;  
20

w) 10; 1; 10; 10; 6; 7; 9; 9; 10; 8; 10; 6

10 ; 6;  
9

x) 14; 10; 12; 9; 13; 14; 17; 16; 10; 12; 10; 17

8 ; 12;  
10

y) 2; 5; 1; 1; 1; 1; 3; 4; 3

4 ; 2;  
1

z) 8; 7; 9; 8; 13; 7; 10; 12; 7; 6; 12; 10

7 ; 8;  
7

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

a) 32; 43; 44; 20; 19; 26; 27; 37; 38; 18	$\begin{array}{l} \tilde{x} = 29,5 \\ \sigma x = 9,32 \\ x = 30,4 \end{array}$	b) 19; 16; 19; 27; 22; 15; 21; 16; 18; 16	$\begin{array}{l} \tilde{x} = 18,5 \\ \sigma x = 3,47 \\ x = 18,9 \end{array}$
c) 39; 29; 32; 44; 24; 34; 33; 33; 47; 39	$\begin{array}{l} \tilde{x} = 33,5 \\ \sigma x = 5,95 \\ x = 35,4 \end{array}$	d) 16; 16; 23; 16; 20; 23; 15; 21; 7; 17	$\begin{array}{l} \tilde{x} = 16,5 \\ \sigma x = 4,49 \\ x = 17,4 \end{array}$
e) 21; 6; 20; 14; 6; 18; 9; 35; 7; 35	$\begin{array}{l} \tilde{x} = 9 \\ \sigma x = 10,43 \\ x = 17,1 \end{array}$	f) 4; 17; 1; 12; 6; 17; 26; 12; 16; 15	$\begin{array}{l} \tilde{x} = 13,5 \\ \sigma x = 6,98 \\ x = 12,6 \end{array}$
g) 28; 14; 29; 25; 21; 19; 22; 16; 14; 22	$\begin{array}{l} \tilde{x} = 21,5 \\ \sigma x = 5,07 \\ x = 21 \end{array}$	h) 28; 30; 29; 27; 15; 6; 30; 32; 19; 33	$\begin{array}{l} \tilde{x} = 28,5 \\ \sigma x = 8,3 \\ x = 24,9 \end{array}$
i) 30; 31; 35; 25; 16; 34; 36; 20; 32; 17	$\begin{array}{l} \tilde{x} = 30,5 \\ \sigma x = 7,17 \\ x = 27,6 \end{array}$	j) 14; 8; 13; 16; 10; 2; 6; 10; 23; 4	$\begin{array}{l} \tilde{x} = 10 \\ \sigma x = 5,88 \\ x = 10,6 \end{array}$
k) 19; 3; 21; 18; 4; 2; 5; 16; 19; 6	$\begin{array}{l} \tilde{x} = 11 \\ \sigma x = 7,45 \\ x = 11,3 \end{array}$	l) 9; 27; 27; 3; 21; 17; 15; 17; 11; 4	$\begin{array}{l} \tilde{x} = 16 \\ \sigma x = 8,05 \\ x = 15,1 \end{array}$
m) 13; 7; 10; 15; 13; 9; 3; 9; 15; 10	$\begin{array}{l} \tilde{x} = 10 \\ \sigma x = 3,55 \\ x = 10,4 \end{array}$	n) 23; 23; 24; 19; 30; 22; 30; 27; 31; 31	$\begin{array}{l} \tilde{x} = 25,5 \\ \sigma x = 4,12 \\ x = 26 \end{array}$
o) 1; 7; 11; 8; 3; 10; 14; 14; 7; 13	$\begin{array}{l} \tilde{x} = 9 \\ \sigma x = 4,23 \\ x = 8,8 \end{array}$	p) 28; 30; 31; 33; 26; 24; 34; 27; 32; 20	$\begin{array}{l} \tilde{x} = 29 \\ \sigma x = 4,15 \\ x = 28,5 \end{array}$
q) 42; 28; 39; 25; 39; 35; 41; 18; 41; 37	$\begin{array}{l} \tilde{x} = 38 \\ \sigma x = 7,69 \\ x = 34,5 \end{array}$	r) 6; 22; 2; 19; 9; 9; 9; 6; 2; 3; 8	$\begin{array}{l} \tilde{x} = 7 \\ \sigma x = 6,48 \\ x = 8,6 \end{array}$
s) 28; 26; 23; 33; 34; 30; 31; 35; 33; 37	$\begin{array}{l} \tilde{x} = 32 \\ \sigma x = 4,09 \\ x = 31 \end{array}$	t) 27; 14; 30; 33; 10; 13; 16; 23; 14; 16	$\begin{array}{l} \tilde{x} = 16 \\ \sigma x = 7,60 \\ x = 19,6 \end{array}$
u) 3; 3; 4; 14; 13; 3; 14; 6; 3; 6	$\begin{array}{l} \tilde{x} = 5 \\ \sigma x = 4,57 \\ x = 6,9 \end{array}$	v) 14; 25; 29; 31; 19; 11; 19; 16; 25; 25	$\begin{array}{l} \tilde{x} = 22 \\ \sigma x = 6,26 \\ x = 21,4 \end{array}$
w) 20; 32; 34; 34; 36; 44; 35; 27; 41; 28	$\begin{array}{l} \tilde{x} = 34 \\ \sigma x = 6,56 \\ x = 33,1 \end{array}$	x) 21; 37; 39; 36; 17; 29; 41; 32; 35; 21	$\begin{array}{l} \tilde{x} = 33,5 \\ \sigma x = 8,00 \\ x = 30,8 \end{array}$