Pan-Russian school competition on statistics
«Trend»

Online quiz for the winners of the regional stage

27th of April 2018

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Nomination «Learning to collect statistics»

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1. Which of the events can be considered random?

- order of pizza with sausages or mushrooms by a customer in a cafe, provided that the price and quality of both products are approximately equal;

- getting "excellent" in mathematics;

- number the cars of a certain color on the road

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2. Ten students are studying in the class, and all of them receive low grades (that is, their average score for the last semester is 3). A new student was transferred to this class, and he has the excellent grades (that is, his average score is 5). How have the average performance indicators changed for the whole class?

- Arithmetic mean;
- Median;
- Mode.

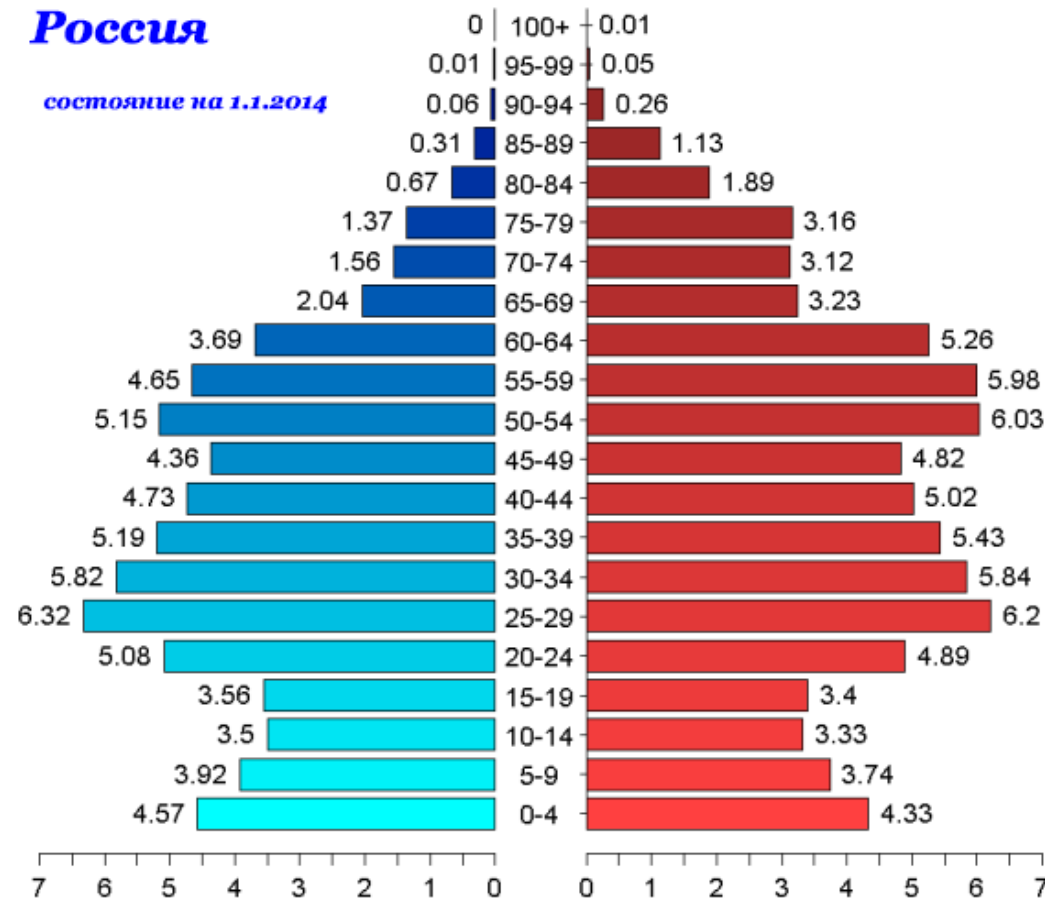Pan-Russian school competition on statistics
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3. What is it? Does this picture have any relation to you personally? Can you specify your place on it?

Россия

состояние на 1.1.2014

0	100+	0.01
0.01	95-99	0.05
0.06	90-94	0.26
0.31	85-89	1.13
0.67	80-84	1.89
1.37	75-79	3.16
1.56	70-74	3.12
2.04	65-69	3.23
3.69	60-64	5.26
4.65	55-59	5.98
5.15	50-54	6.03
4.36	45-49	4.82
4.73	40-44	5.02
5.19	35-39	5.43
5.82	30-34	5.84
6.32	25-29	6.2
5.08	20-24	4.89
3.56	15-19	3.4
3.5	10-14	3.33
3.92	5-9	3.74
4.57	0-4	4.33

7 6 5 4 3 2 1 0   0 1 2 3 4 5 6 7

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4. If you are to research all schools in your area and choose the one where the best teachers work, what statistical indicators will you use for the analysis? Make up the system of indicators and give explanations.

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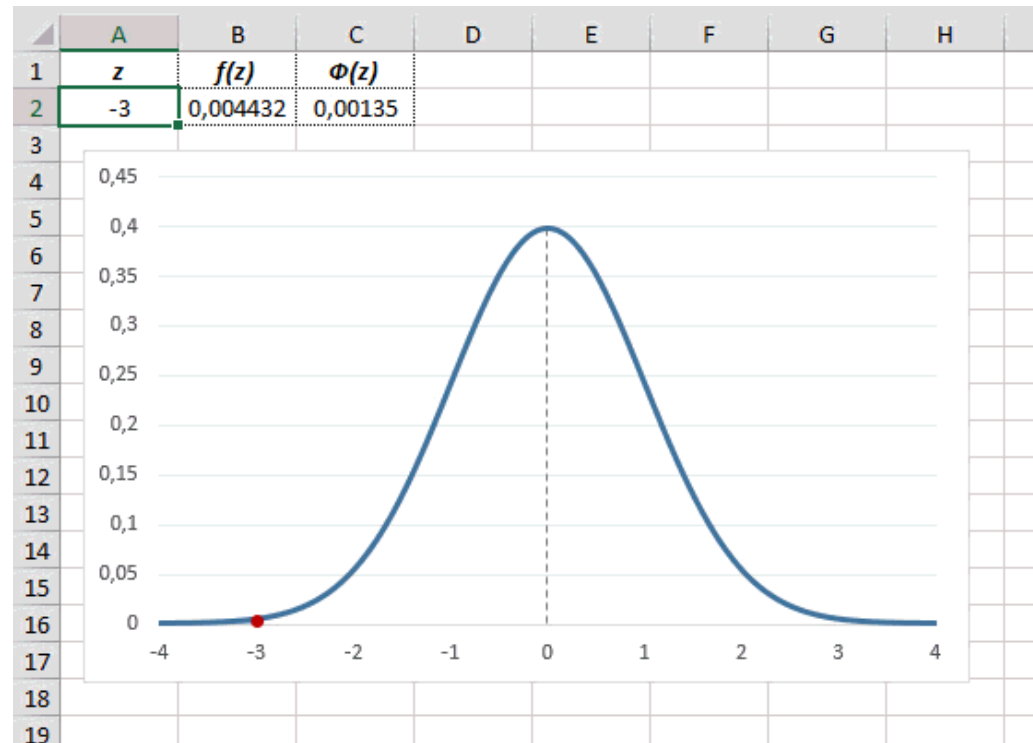
Nomination «Learning to analyze statistics»

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1. **What is it? What is depicted in the figure and what meaning does this phenomenon have in statistics?**

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2. There were 100 excellent students at school two years ago. Last year their number decreased by 20%, and this year the number of excellent students again increased by 20%. How many excellent students are there in school today?

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3. Last year 3% of students were excellent in the class, and this year the amount of excellent students reached 5%. What did happen?

- **Share of excellent students increased by 2%**

- **Share of excellent students increased by approximately 67%**

- **Share of excellent students increased by 2 p.p.**

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4. If you are to research all the schools in your district and choose the best one, what statistical indicators will you use for the analysis? Make up the system of indicators and give explanations.