Olympiad of Mathematics

№ 1-1

In the morning, 5 of foreign cars were parked along the road. By noon, 2 domestic cars were parked between each of the two foreign cars. And by evening, a motorcycle was parked between each of the two neighboring cars. How many motorcycles were parked in total?

12

№ 1-2

In the morning, 3 of foreign cars were parked along the road. By noon, 1 domestic cars were parked between each of the two foreign cars. And by evening, a motorcycle was parked between each of the two neighboring cars. How many motorcycles were parked in total?

8

№ 1-3

In the morning, 5 of foreign cars were parked along the road. By noon, a domestic car was parked between each of the two foreign cars. And by the evening,2 motorcycles were parked between each of the two neighboring cars. How many motorcycles were parked in total?

16

№ 1-4

In the morning, 6 of foreign cars were parked along the road. By noon, 2 domestic cars were parked between each of the two foreign cars. And by the evening,2 motorcycles were parked between each of the two neighboring cars. How many motorcycles were parked in total?

18

№ 2-1

Four quartets, five duets, and six trios were scheduled to perform at the Conservatory's open evening (a Quartet consists of four musicians, a trio of three, and a Duo of two; each musician consists of only one musical group). But one Quartet and two duets suddenly went on tour, and the soloist of one of the trio fell ill, and the members of this trio had to perform together. How many musicians performed at the Conservatory that night?

35

№ 2-2

Five quartets, three duets, and seven trios were scheduled to perform at the Conservatory's open evening (a Quartet consists of four musicians, a trio of three, and a Duo of two; each musician consists of only one musical group). But one Quartet and three duets suddenly went on tour, and the soloist of one of the trio fell ill, and the members of this trio had to perform together. How many musicians performed at the Conservatory that night?

36

№ 2-3

Three quartets, seven duets, and eight trios were scheduled to perform at the Conservatory's open evening (a Quartet consists of four musicians, a trio of three, and a Duo of two; each musician consists of only one musical group). But one Quartet and three duets suddenly went on tour, and the soloist of one of the trio fell ill, and the members of this trio had to perform together. How many musicians performed at the Conservatory that night?

39

№ 2-4

Five quartets, two duets, and eight trios were scheduled to perform at the Conservatory's open evening (a Quartet consists of four musicians, a trio of three, and a Duo of two; each musician consists of only one musical group). Two quartets and one duet suddenly went on tour, and the soloist of one of the trio fell ill, and the members of this trio had to perform together. How many musicians performed at the Conservatory that night?

37

№ 3

Athletes A, B, C, D and E participated in the race. The athlete D came running later than A, and the athlete B before D and immediately after C. The C athlete was not the first, but ran before A. In what order did the participants finish?

For the answer, enter the letters A, B, C , D, E without spaces or commas in the order in which the athletes finished.

ECBAD

№ 4-1

Dima stood on one of the stairs and suddenly noticed that the steps above and below him were equal. Then it went up 7 steps, and then it went down 17 steps. In the end, he ended up on theth rung of the ladder (if you count from the bottom). How many steps does the staircase consist of?

31

№ 4-2

Dima stood on one of the stairs and suddenly noticed that the steps above and below him were equal. Then it went up 9 steps, and then it went down 17 steps. In the end, he ended up on theth rung of the ladder (if you count from the bottom). How many steps does the staircase consist of?

27

№ 4-3

Dima stood on one of the stairs and suddenly noticed that the steps above and below him were equal. Then it went up 9 steps and then down 35 steps. In the end, he ended up on theth rung of the ladder (if you count from the bottom). How many steps does the staircase consist of?

41

№ 4-4

Dima stood on one of the stairs and suddenly noticed that the steps above and below him were equal. Then it went up 7 steps and then down 21 steps. In the end, he ended up on the 3 rung of the ladder (if you count from the bottom). How many steps does the staircase consist of?

29

№ 5-1

On the table were cards with numbers from 1 to 9 (only 9 cards). Katya chose four cards so that the product of the numbers on two of them is equal to the product of the numbers on the other two. Then Anton took another card from the table. As a result, cards with numbers were left on the table 1, 4, 7, 9. What number did Anton take the card with?

7

№ 5-2

On the table were cards with numbers from 1 to 9 (only 9 cards). Katya chose four cards so that the product of the numbers on two of them is equal to the product of the numbers on the other two. Then Anton took another card from the table. As a result, cards with numbers were left on the table 1, 4, 7, 9. What number did Anton take the card with?

5

№ 6-1

Julia conceived a number. Dasha added 1 to Julia's number, and Anya added 1.7to Julia's number. It turned out that the number received by Anya is 4 times more than the number received by Dasha. What is the number I was thinking of Julia?

3

№ 6-2

Julia conceived a number. Dasha added 1 to Julia's number, and Anya added 2.1to Julia's number. It turned out that the number received by Anya is 5 times more than the number received by Dasha. What is the number I was thinking of Julia?

4

№ 6-3

Julia conceived a number. Dasha added 3 to Julia's number, and Anya added 1.5to Julia's number. It turned out that the number received by Anya is 4 times more than the number received by Dasha. What is the number I was thinking of Julia?

1

№ 6-4

Julia conceived a number. Dasha added 3 to Julia's number, and Anya added 2.7to Julia's number. It turned out that the number received by Anya is 5 times more than the number received by Dasha. What is the number I was thinking of Julia?

2

№ 7

Asya, Boris, Vasilia and Gregory bought movie tickets in one row. It is known that:

- A total of 9 seats in a row, numbered from 1 to 9.
- Borya was not sitting on 4 or 6 place.
- Asya was sitting next to Vasilina and Grisha, but no one was sitting next to Borya.
- There are no more than two seats between Asya and Borya.

What number exactly was one of the guys sitting in the seat with?

5

№ 8-1

Masha planted her dolls' pigtails: half of the dolls – one, a quarter of the dolls – two, and the remaining quarter of the dolls-four. She had woven a ribbon into each braid. How many dolls does Masha have if She only needed24 ribbons?

12

№ 8-2

Masha plaited her dolls' pigtails: half of the dolls – one, a quarter of the dolls – two, and the remaining quarter of the dolls-four. She had woven a ribbon into each braid. How many dolls does Masha have if She only needed 20 ribbons?

10

№ 8-3

Masha plaited her dolls' pigtails: half of the dolls – one, a quarter of the dolls – two, and the remaining quarter of the dolls-four. She had woven a ribbon into each braid. How many dolls does Masha have if She only needed 16 ribbons?

8

№ 8-4

Masha plaited her dolls' pigtails: half of the dolls – one, a quarter of the dolls – two, and the remaining quarter of the dolls-four. She had woven a ribbon into each braid. How many dolls does Masha have if She only needed 28 ribbons?

14