Шамсутдинов Константин

# MM244

Ответ: 1,8,9.

В Exel’е получаем следующую таблицу.

В верхней строке показано количество возможных троек цифр на соответствующем этапе.

1≤a1<a2<a3≤9 – исходная тройка цифр.

В колонках А1, Б1, В1­ указано количество прошедших предыдущий этап троек, имеющих одинаковую функцию: сумму квадратов для Ани, произведение для Бори, сумму для Васи, в случае, если это количество больше 1.

Колонки A2, «Б2 перед А2», «Б2 после А2» заполнены аналогично, но также указана 1, если функция достигается только на одной тройке.

Тройкой, удовлетворяющей условию, является такая, для которой перед вторым ответом Ани была другая тройка (прошедшая предыдущие этапы), имеющая такую же Борину функцию, но после ответа Ани ставшей единственной. Такой тройкой является (1,8,9).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | 84 |  | 29 |  | 12 |  | 8 | 6 | 4 | 4 | 1 |
| № | a1 | a2 | a3 |  | ∑ai2 | А1 | Пai | Б1 | ∑ai | В1 | А2 | Б2 перед А2 | Б2 после А2 | Ответ |
| 1 | 1 | 2 | 3 |  | 14 |  | 6 |  | 6 |  |  |  |  |  |
| 2 | 1 | 2 | 4 |  | 21 |  | 8 |  | 7 |  |  |  |  |  |
| 3 | 1 | 2 | 5 |  | 30 |  | 10 |  | 8 |  |  |  |  |  |
| 4 | 1 | 2 | 6 |  | 41 |  | 12 |  | 9 |  |  |  |  |  |
| 5 | 1 | 2 | 7 |  | 54 |  | 14 |  | 10 |  |  |  |  |  |
| 6 | 1 | 2 | 8 |  | 69 | 2 | 16 |  | 11 |  |  |  |  |  |
| 7 | 1 | 2 | 9 |  | 86 | 2 | 18 |  | 12 |  |  |  |  |  |
| 8 | 1 | 3 | 4 |  | 26 |  | 12 |  | 8 |  |  |  |  |  |
| 9 | 1 | 3 | 5 |  | 35 |  | 15 |  | 9 |  |  |  |  |  |
| 10 | 1 | 3 | 6 |  | 46 |  | 18 |  | 10 |  |  |  |  |  |
| 11 | 1 | 3 | 7 |  | 59 |  | 21 |  | 11 |  |  |  |  |  |
| 12 | 1 | 3 | 8 |  | 74 | 2 | 24 |  | 12 |  |  |  |  |  |
| 13 | 1 | 3 | 9 |  | 91 |  | 27 |  | 13 |  |  |  |  |  |
| 14 | 1 | 4 | 5 |  | 42 |  | 20 |  | 10 |  |  |  |  |  |
| 15 | 1 | 4 | 6 |  | 53 |  | 24 |  | 11 |  |  |  |  |  |
| 16 | 1 | 4 | 7 |  | 66 |  | 28 |  | 12 |  |  |  |  |  |
| 17 | 1 | 4 | 8 |  | 81 |  | 32 |  | 13 |  |  |  |  |  |
| 18 | 1 | 4 | 9 |  | 98 | 2 | 36 |  | 14 |  |  |  |  |  |
| 19 | 1 | 5 | 6 |  | 62 | 2 | 30 |  | 12 |  |  |  |  |  |
| 20 | 1 | 5 | 7 |  | 75 |  | 35 |  | 13 |  |  |  |  |  |
| 21 | 1 | 5 | 8 |  | 90 | 2 | 40 |  | 14 |  |  |  |  |  |
| 22 | 1 | 5 | 9 |  | 107 |  | 45 |  | 15 |  |  |  |  |  |
| 23 | 1 | 6 | 7 |  | 86 | 2 | 42 | 2 | 14 | 2 | 1 | 1 | 1 |  |
| 24 | 1 | 6 | 8 |  | 101 | 3 | 48 | 2 | 15 | 4 | 2 | 1 |  |  |
| 25 | 1 | 6 | 9 |  | 118 |  | 54 |  | 16 |  |  |  |  |  |
| 26 | 1 | 7 | 8 |  | 114 |  | 56 |  | 16 |  |  |  |  |  |
| 27 | 1 | 7 | 9 |  | 131 |  | 63 |  | 17 |  |  |  |  |  |
| 28 | 1 | 8 | 9 |  | 146 | 2 | 72 | 2 | 18 | 2 | 1 | 2 | 1 | 1 |
| 29 | 2 | 3 | 4 |  | 29 |  | 24 |  | 9 |  |  |  |  |  |
| 30 | 2 | 3 | 5 |  | 38 |  | 30 |  | 10 |  |  |  |  |  |
| 31 | 2 | 3 | 6 |  | 49 |  | 36 |  | 11 |  |  |  |  |  |
| 32 | 2 | 3 | 7 |  | 62 | 2 | 42 | 2 | 12 |  |  |  |  |  |
| 33 | 2 | 3 | 8 |  | 77 | 2 | 48 | 2 | 13 |  |  |  |  |  |
| 34 | 2 | 3 | 9 |  | 94 | 2 | 54 |  | 14 |  |  |  |  |  |
| 35 | 2 | 4 | 5 |  | 45 |  | 40 |  | 11 |  |  |  |  |  |
| 36 | 2 | 4 | 6 |  | 56 |  | 48 |  | 12 |  |  |  |  |  |
| 37 | 2 | 4 | 7 |  | 69 | 2 | 56 |  | 13 |  |  |  |  |  |
| 38 | 2 | 4 | 8 |  | 84 |  | 64 |  | 14 |  |  |  |  |  |
| 39 | 2 | 4 | 9 |  | 101 | 3 | 72 | 2 | 15 | 4 | 2 | 2 |  |  |
| 40 | 2 | 5 | 6 |  | 65 |  | 60 |  | 13 |  |  |  |  |  |
| 41 | 2 | 5 | 7 |  | 78 |  | 70 |  | 14 |  |  |  |  |  |
| 42 | 2 | 5 | 8 |  | 93 |  | 80 |  | 15 |  |  |  |  |  |
| 43 | 2 | 5 | 9 |  | 110 | 2 | 90 |  | 16 |  |  |  |  |  |
| 44 | 2 | 6 | 7 |  | 89 | 2 | 84 | 2 | 15 | 4 | 1 | 2 | 2 |  |
| 45 | 2 | 6 | 8 |  | 104 |  | 96 |  | 16 |  |  |  |  |  |
| 46 | 2 | 6 | 9 |  | 121 |  | 108 |  | 17 |  |  |  |  |  |
| 47 | 2 | 7 | 8 |  | 117 |  | 112 |  | 17 |  |  |  |  |  |
| 48 | 2 | 7 | 9 |  | 134 |  | 126 |  | 18 |  |  |  |  |  |
| 49 | 2 | 8 | 9 |  | 149 | 2 | 144 |  | 19 |  |  |  |  |  |
| 50 | 3 | 4 | 5 |  | 50 |  | 60 |  | 12 |  |  |  |  |  |
| 51 | 3 | 4 | 6 |  | 61 |  | 72 |  | 13 |  |  |  |  |  |
| 52 | 3 | 4 | 7 |  | 74 | 2 | 84 | 2 | 14 | 2 | 1 | 2 | 2 |  |
| 53 | 3 | 4 | 8 |  | 89 | 2 | 96 |  | 15 |  |  |  |  |  |
| 54 | 3 | 4 | 9 |  | 106 |  | 108 |  | 16 |  |  |  |  |  |
| 55 | 3 | 5 | 6 |  | 70 |  | 90 |  | 14 |  |  |  |  |  |
| 56 | 3 | 5 | 7 |  | 83 |  | 105 |  | 15 |  |  |  |  |  |
| 57 | 3 | 5 | 8 |  | 98 | 2 | 120 | 2 | 16 |  |  |  |  |  |
| 58 | 3 | 5 | 9 |  | 115 |  | 135 |  | 17 |  |  |  |  |  |
| 59 | 3 | 6 | 7 |  | 94 | 2 | 126 |  | 16 |  |  |  |  |  |
| 60 | 3 | 6 | 8 |  | 109 |  | 144 |  | 17 |  |  |  |  |  |
| 61 | 3 | 6 | 9 |  | 126 |  | 162 |  | 18 |  |  |  |  |  |
| 62 | 3 | 7 | 8 |  | 122 | 2 | 168 | 2 | 18 | 2 | 1 | 1 | 1 |  |
| 63 | 3 | 7 | 9 |  | 139 |  | 189 |  | 19 |  |  |  |  |  |
| 64 | 3 | 8 | 9 |  | 154 |  | 216 |  | 20 |  |  |  |  |  |
| 65 | 4 | 5 | 6 |  | 77 | 2 | 120 | 2 | 15 | 4 | 1 | 1 | 1 |  |
| 66 | 4 | 5 | 7 |  | 90 | 2 | 140 |  | 16 |  |  |  |  |  |
| 67 | 4 | 5 | 8 |  | 105 |  | 160 |  | 17 |  |  |  |  |  |
| 68 | 4 | 5 | 9 |  | 122 | 2 | 180 |  | 18 |  |  |  |  |  |
| 69 | 4 | 6 | 7 |  | 101 | 3 | 168 | 2 | 17 |  |  |  |  |  |
| 70 | 4 | 6 | 8 |  | 116 |  | 192 |  | 18 |  |  |  |  |  |
| 71 | 4 | 6 | 9 |  | 133 |  | 216 |  | 19 |  |  |  |  |  |
| 72 | 4 | 7 | 8 |  | 129 |  | 224 |  | 19 |  |  |  |  |  |
| 73 | 4 | 7 | 9 |  | 146 | 2 | 252 |  | 20 |  |  |  |  |  |
| 74 | 4 | 8 | 9 |  | 161 |  | 288 |  | 21 |  |  |  |  |  |
| 75 | 5 | 6 | 7 |  | 110 | 2 | 210 |  | 18 |  |  |  |  |  |
| 76 | 5 | 6 | 8 |  | 125 |  | 240 |  | 19 |  |  |  |  |  |
| 77 | 5 | 6 | 9 |  | 142 |  | 270 |  | 20 |  |  |  |  |  |
| 78 | 5 | 7 | 8 |  | 138 |  | 280 |  | 20 |  |  |  |  |  |
| 79 | 5 | 7 | 9 |  | 155 |  | 315 |  | 21 |  |  |  |  |  |
| 80 | 5 | 8 | 9 |  | 170 |  | 360 |  | 22 |  |  |  |  |  |
| 81 | 6 | 7 | 8 |  | 149 | 2 | 336 |  | 21 |  |  |  |  |  |
| 82 | 6 | 7 | 9 |  | 166 |  | 378 |  | 22 |  |  |  |  |  |
| 83 | 6 | 8 | 9 |  | 181 |  | 432 |  | 23 |  |  |  |  |  |
| 84 | 7 | 8 | 9 |  | 194 |  | 504 |  | 24 |  |  |  |  |  |