**Лабораторная работа 1.**

**Критерий согласия Пирсона**

1. Составить интервальный статистический ряд.

Величину интервалов округлить с точностью до 0,1 в большую сторону.

1. Найти эмпирическую функцию распределения и построить ее график.
2. Построить гистограмму относительных частот.

Можно ли предположить, что данная выборка взята из нормального распределения?

1. Определить выборочное среднее и несмещенную оценку дисперсии по сгруппированному статистическому ряду.
2. Записать предполагаемую плотность закона распределения.
3. Проверить по критерию  Пирсона гипотезу о законе распределения.

Уровень значимости принять равным .

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Вариант 1  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 44 | 62 | 74 | 72 | 79 | 51 | 61 | 54 | 59 | 51 | | 60 | 70 | 72 | 69 | 65 | 76 | 55 | 76 | 67 | 50 | | 76 | 63 | 55 | 63 | 56 | 60 | 61 | 51 | 63 | 59 | | 48 | 52 | 67 | 56 | 57 | 83 | 55 | 74 | 45 | 67 | | 63 | 56 | 40 | 78 | 72 | 50 | 66 | 69 | 54 | 68 | | 47 | 73 | 58 | 54 | 80 | 72 | 53 | 64 | 61 | 52 | | 62 | 60 | 72 | 84 | 46 | 72 | 51 | 68 | 59 | 84 | | 55 | 54 | 54 | 74 | 60 | 55 | 65 | 68 | 46 | 70 | | 69 | 48 | 67 | 57 | 64 | 70 | 72 | 56 | 49 | 58 | | 56 | 62 | 67 | 70 | 47 | 55 | 64 | 71 | 66 | 70 | | Вариант 2   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 36 | 14 | 40 | 24 | 30 | 32 | 24 | 32 | 29 | 17 | | 26 | 29 | 33 | 46 | 38 | 16 | 44 | 36 | 18 | 33 | | 36 | 31 | 24 | 29 | 30 | 25 | 16 | 29 | 38 | 33 | | 34 | 43 | 31 | 24 | 23 | 22 | 18 | 29 | 34 | 19 | | 24 | 33 | 36 | 24 | 17 | 36 | 12 | 25 | 40 | 40 | | 29 | 29 | 16 | 21 | 29 | 41 | 30 | 29 | 31 | 28 | | 17 | 14 | 30 | 42 | 45 | 42 | 42 | 39 | 26 | 28 | | 37 | 45 | 28 | 32 | 38 | 28 | 23 | 23 | 23 | 42 | | 22 | 25 | 30 | 18 | 20 | 29 | 38 | 21 | 25 | 30 | | 29 | 16 | 21 | 30 | 26 | 26 | 31 | 26 | 36 | 37 | |
| Вариант 3  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 38 | 41 | 47 | 52 | 45 | 63 | 51 | 55 | 51 | 54 | | 55 | 62 | 60 | 43 | 54 | 49 | 53 | 50 | 49 | 30 | | 70 | 41 | 56 | 49 | 64 | 45 | 55 | 55 | 47 | 54 | | 47 | 48 | 52 | 53 | 52 | 60 | 39 | 58 | 52 | 69 | | 64 | 54 | 60 | 57 | 35 | 58 | 59 | 57 | 60 | 51 | | 56 | 54 | 46 | 59 | 44 | 49 | 57 | 38 | 54 | 56 | | 51 | 41 | 52 | 45 | 58 | 45 | 51 | 54 | 50 | 46 | | 52 | 61 | 54 | 64 | 47 | 55 | 47 | 41 | 49 | 53 | | 61 | 58 | 64 | 51 | 42 | 71 | 51 | 71 | 47 | 35 | | 52 | 59 | 56 | 54 | 63 | 61 | 55 | 41 | 41 | 48 | | Вариант 4   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 21 | 23 | 17 | 27 | 26 | 28 | 34 | 16 | 28 | 31 | | 23 | 34 | 33 | 26 | 35 | 23 | 29 | 28 | 20 | 29 | | 21 | 7 | 18 | 38 | 26 | 34 | 19 | 28 | 23 | 27 | | 27 | 33 | 22 | 32 | 17 | 23 | 29 | 27 | 19 | 21 | | 27 | 19 | 30 | 9 | 35 | 21 | 19 | 22 | 18 | 26 | | 32 | 28 | 13 | 18 | 10 | 19 | 16 | 37 | 17 | 30 | | 14 | 19 | 35 | 10 | 31 | 35 | 34 | 34 | 23 | 15 | | 25 | 17 | 31 | 15 | 23 | 17 | 41 | 29 | 38 | 32 | | 15 | 22 | 37 | 17 | 21 | 25 | 35 | 40 | 19 | 13 | | 27 | 31 | 25 | 25 | 12 | 24 | 30 | 29 | 35 | 24 | |
| Вариант 5  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 33 | 33 | 33 | 27 | 31 | 36 | 36 | 37 | 34 | 40 | | 27 | 31 | 42 | 41 | 35 | 28 | 30 | 31 | 42 | 35 | | 23 | 31 | 35 | 33 | 41 | 41 | 37 | 38 | 38 | 24 | | 29 | 37 | 45 | 37 | 20 | 31 | 36 | 34 | 38 | 32 | | 29 | 30 | 43 | 22 | 31 | 36 | 31 | 33 | 31 | 39 | | 43 | 35 | 33 | 25 | 33 | 24 | 34 | 31 | 39 | 34 | | 32 | 29 | 41 | 38 | 43 | 27 | 37 | 19 | 42 | 32 | | 38 | 27 | 33 | 33 | 34 | 37 | 26 | 30 | 35 | 18 | | 22 | 27 | 33 | 29 | 31 | 40 | 46 | 41 | 15 | 26 | | 35 | 33 | 30 | 40 | 29 | 40 | 29 | 36 | 37 | 28 | | Вариант 6  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 35 | 29 | 16 | 18 | 27 | 25 | 22 | 31 | 23 | 27 | | 22 | 15 | 38 | 25 | 28 | 29 | 18 | 24 | 29 | 26 | | 25 | 21 | 20 | 26 | 25 | 34 | 27 | 29 | 30 | 31 | | 18 | 29 | 13 | 26 | 24 | 20 | 26 | 19 | 29 | 31 | | 24 | 19 | 34 | 25 | 22 | 34 | 22 | 26 | 25 | 26 | | 21 | 34 | 26 | 25 | 30 | 18 | 34 | 24 | 14 | 26 | | 37 | 26 | 23 | 21 | 27 | 16 | 18 | 29 | 40 | 25 | | 26 | 28 | 25 | 19 | 20 | 22 | 28 | 20 | 34 | 32 | | 20 | 33 | 21 | 23 | 37 | 23 | 22 | 26 | 20 | 20 | | 26 | 28 | 29 | 19 | 16 | 12 | 28 | 21 | 24 | 14 | |
| Вариант 7  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 27 | 22 | 28 | 19 | 22 | 5 | 9 | 26 | 29 | 41 | | 18 | 44 | 19 | 19 | 28 | 10 | 21 | 16 | 13 | 30 | | 28 | 33 | 45 | 18 | 32 | 36 | 22 | 35 | 25 | 31 | | 37 | 20 | 19 | 40 | 26 | 21 | 41 | 9 | 24 | 30 | | 38 | 27 | 10 | 17 | 26 | 31 | 5 | 18 | 39 | 20 | | 26 | 26 | 27 | 43 | 17 | 40 | 0 | 29 | 23 | 3 | | 7 | 36 | 36 | 24 | 17 | 28 | 22 | 31 | 29 | 36 | | 25 | 20 | 31 | 12 | 8 | 36 | 20 | 28 | 26 | 26 | | 18 | 11 | 27 | 22 | 19 | 33 | 26 | 25 | 24 | 2 | | 30 | 36 | 17 | 33 | 12 | 23 | 22 | 26 | 22 | 27 | | Вариант 8  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 37 | 36 | 26 | 32 | 34 | 23 | 22 | 37 | 31 | 26 | | 20 | 30 | 23 | 23 | 39 | 32 | 44 | 39 | 21 | 28 | | 26 | 46 | 28 | 21 | 31 | 46 | 31 | 49 | 29 | 44 | | 30 | 26 | 38 | 48 | 30 | 33 | 14 | 19 | 32 | 38 | | 36 | 36 | 39 | 20 | 37 | 38 | 29 | 22 | 34 | 24 | | 19 | 30 | 38 | 31 | 36 | 25 | 32 | 29 | 31 | 31 | | 40 | 28 | 21 | 37 | 37 | 50 | 42 | 29 | 18 | 43 | | 40 | 20 | 33 | 30 | 30 | 29 | 35 | 15 | 28 | 12 | | 48 | 31 | 39 | 41 | 23 | 23 | 44 | 25 | 38 | 36 | | 27 | 29 | 32 | 36 | 16 | 26 | 31 | 20 | 32 | 34 | |
| Вариант 9  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 11 | 14 | 22 | 10 | 14 | 17 | 21 | 12 | 16 | 25 | | 21 | 13 | 8 | 23 | 17 | 12 | 17 | 21 | 12 | 22 | | 15 | 5 | 20 | 17 | 15 | 23 | 13 | 16 | 17 | 21 | | 21 | 15 | 11 | 8 | 22 | 23 | 7 | 9 | 9 | 22 | | 14 | 21 | 10 | 19 | 10 | 17 | 18 | 20 | 17 | 20 | | 22 | 14 | 11 | 12 | 12 | 16 | 12 | 19 | 12 | 18 | | 9 | 25 | 4 | 18 | 25 | 15 | 15 | 5 | 18 | 13 | | 20 | 26 | 11 | 1 | 4 | 1 | 7 | 10 | 6 | 15 | | 12 | 29 | 6 | 11 | 20 | 6 | 16 | 14 | 18 | 16 | | 6 | 10 | 13 | 22 | 22 | 10 | 15 | 9 | 28 | 20 | | Вариант 10   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 25 | 9 | 25 | 17 | 29 | 16 | 11 | 32 | 18 | 33 | | 24 | 16 | 21 | 21 | 26 | 21 | 13 | 21 | 22 | 9 | | 5 | 20 | 32 | 14 | 13 | 46 | 20 | 26 | 20 | 6 | | 11 | 20 | 29 | 23 | 26 | 15 | 18 | 15 | 20 | 32 | | 27 | 31 | 29 | 11 | 24 | 23 | 22 | 23 | 9 | 26 | | 33 | 23 | 27 | 26 | 30 | 16 | 14 | 19 | 10 | 23 | | 26 | 19 | 9 | 33 | 27 | 21 | 28 | 23 | 13 | 33 | | 27 | 32 | 18 | 29 | 28 | 29 | 13 | 33 | 24 | 21 | | 12 | 16 | 23 | 16 | 28 | 18 | 24 | 17 | 40 | 32 | | 32 | 25 | 26 | 23 | 21 | 37 | 19 | 23 | 18 | 29 | |
| Вариант 11  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 18 | 35 | 32 | 11 | 30 | 17 | 19 | 30 | 13 | 17 | | 33 | 16 | 7 | 11 | 31 | 42 | 29 | 35 | 18 | 37 | | 9 | 21 | 22 | 22 | 11 | 27 | 7 | 16 | 36 | 11 | | 16 | 14 | 7 | 28 | 13 | 29 | 7 | 31 | 12 | 24 | | 47 | 22 | 8 | 29 | 32 | 18 | 19 | 17 | 23 | 26 | | 25 | 26 | 12 | 32 | 34 | 26 | 18 | 31 | 20 | 31 | | 21 | 12 | 25 | 11 | 30 | 14 | 23 | 19 | 27 | 13 | | 33 | 25 | 24 | 13 | 33 | 6 | 10 | 15 | 20 | 21 | | 6 | 28 | 28 | 26 | 28 | 18 | 39 | 17 | 29 | 21 | | 35 | 15 | 22 | 23 | 22 | 16 | 28 | 23 | 25 | 21 | | Вариант 12   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 17 | 41 | 22 | 27 | 16 | 31 | 8 | 23 | 22 | 18 | | 26 | 29 | 18 | 35 | 28 | 23 | 32 | 34 | 33 | 22 | | 28 | 20 | 36 | 13 | 13 | 55 | 15 | 6 | 22 | 14 | | 22 | 13 | 22 | 14 | 19 | 21 | 10 | 9 | 27 | 25 | | 16 | 24 | 9 | 40 | 20 | 17 | 45 | 11 | 46 | 14 | | 28 | 26 | 15 | 27 | 8 | 16 | 20 | 47 | 27 | 9 | | 31 | 25 | 20 | 23 | 28 | 29 | 21 | 40 | 19 | 32 | | 28 | 15 | 19 | 14 | 26 | 39 | 31 | 30 | 22 | 26 | | 22 | 32 | 31 | 33 | 30 | 3 | 15 | 31 | 24 | 21 | | 46 | 36 | 29 | 30 | 33 | 19 | 6 | 21 | 23 | 17 | |
| Вариант 13  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 19 | 31 | 38 | 39 | 3 | 27 | 19 | 41 | 13 | 21 | | 26 | 12 | 25 | 9 | 27 | 34 | 30 | 29 | 19 | 34 | | 20 | 2 | 14 | 9 | 6 | 26 | 34 | 17 | 9 | 15 | | 20 | 30 | 25 | 11 | 14 | 7 | 24 | 30 | 9 | 15 | | 10 | 33 | 5 | 16 | 22 | 29 | 44 | 13 | 15 | 6 | | 16 | 18 | 27 | 37 | 28 | 37 | 26 | 9 | 25 | 4 | | 10 | 14 | 22 | 33 | 15 | 28 | 13 | 27 | 24 | 29 | | 12 | 31 | 27 | 24 | 16 | 31 | 21 | 3 | 33 | 10 | | 18 | 31 | 18 | 20 | 19 | 25 | 28 | 21 | 18 | 31 | | 22 | 3 | 39 | 1 | 20 | 23 | 41 | 30 | 20 | 25 | | Вариант 14  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 19 | 25 | 30 | 21 | 17 | 29 | 26 | 19 | 21 | 19 | | 27 | 27 | 17 | 21 | 23 | 32 | 15 | 24 | 27 | 22 | | 23 | 20 | 18 | 18 | 20 | 23 | 20 | 36 | 20 | 16 | | 21 | 21 | 23 | 24 | 18 | 18 | 18 | 21 | 21 | 19 | | 22 | 18 | 27 | 29 | 27 | 23 | 26 | 23 | 24 | 26 | | 20 | 18 | 13 | 16 | 22 | 23 | 18 | 33 | 14 | 22 | | 26 | 23 | 25 | 21 | 20 | 18 | 12 | 15 | 31 | 10 | | 24 | 28 | 21 | 17 | 26 | 26 | 15 | 23 | 18 | 26 | | 17 | 23 | 30 | 27 | 14 | 16 | 24 | 23 | 23 | 9 | | 26 | 24 | 20 | 25 | 26 | 13 | 32 | 26 | 17 | 23 | |
| Вариант 15  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 23 | 21 | 27 | 20 | 18 | 19 | 24 | 17 | 18 | 24 | | 25 | 25 | 23 | 22 | 18 | 24 | 20 | 23 | 24 | 21 | | 24 | 18 | 19 | 15 | 19 | 17 | 26 | 23 | 27 | 25 | | 20 | 22 | 20 | 25 | 19 | 20 | 17 | 30 | 22 | 25 | | 16 | 26 | 18 | 22 | 15 | 26 | 23 | 34 | 33 | 22 | | 28 | 20 | 23 | 22 | 23 | 28 | 22 | 26 | 26 | 29 | | 21 | 16 | 13 | 32 | 18 | 24 | 26 | 28 | 20 | 21 | | 18 | 23 | 22 | 18 | 23 | 21 | 24 | 22 | 20 | 18 | | 23 | 19 | 26 | 21 | 18 | 26 | 22 | 20 | 23 | 16 | | 15 | 16 | 24 | 16 | 16 | 28 | 21 | 26 | 28 | 25 | | Вариант 16  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 22 | 18 | 26 | 22 | 22 | 27 | 21 | 18 | 25 | 24 | | 23 | 26 | 19 | 25 | 25 | 21 | 24 | 23 | 25 | 24 | | 19 | 21 | 20 | 21 | 24 | 24 | 23 | 19 | 19 | 23 | | 14 | 23 | 24 | 17 | 22 | 25 | 20 | 22 | 25 | 24 | | 22 | 23 | 24 | 17 | 20 | 19 | 26 | 25 | 21 | 23 | | 24 | 26 | 26 | 28 | 23 | 25 | 24 | 17 | 20 | 23 | | 19 | 19 | 22 | 20 | 14 | 25 | 22 | 19 | 18 | 23 | | 22 | 19 | 24 | 21 | 23 | 27 | 19 | 27 | 24 | 23 | | 17 | 22 | 20 | 17 | 22 | 18 | 19 | 21 | 21 | 17 | | 22 | 18 | 20 | 16 | 27 | 25 | 18 | 21 | 28 | 20 | |
| Вариант 17  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 25 | 28 | 29 | 33 | 33 | 29 | 28 | 36 | 39 | 30 | | 32 | 26 | 29 | 29 | 29 | 31 | 32 | 26 | 31 | 32 | | 29 | 29 | 31 | 31 | 33 | 33 | 33 | 31 | 31 | 32 | | 31 | 26 | 28 | 29 | 33 | 28 | 29 | 26 | 29 | 27 | | 28 | 25 | 30 | 24 | 30 | 36 | 26 | 33 | 29 | 33 | | 33 | 28 | 27 | 30 | 26 | 32 | 23 | 28 | 26 | 25 | | 32 | 24 | 30 | 32 | 32 | 28 | 35 | 28 | 34 | 24 | | 29 | 33 | 27 | 29 | 32 | 31 | 30 | 25 | 31 | 33 | | 30 | 34 | 34 | 33 | 32 | 27 | 28 | 26 | 36 | 30 | | 30 | 30 | 32 | 28 | 30 | 30 | 29 | 30 | 29 | 30 | | Вариант 18   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 31 | 29 | 27 | 34 | 32 | 29 | 26 | 28 | 19 | 31 | | 28 | 36 | 31 | 32 | 29 | 31 | 22 | 39 | 29 | 26 | | 30 | 35 | 30 | 25 | 27 | 32 | 30 | 27 | 26 | 32 | | 28 | 27 | 35 | 29 | 28 | 33 | 35 | 24 | 35 | 28 | | 40 | 35 | 27 | 29 | 29 | 33 | 33 | 31 | 29 | 23 | | 30 | 31 | 32 | 32 | 36 | 27 | 33 | 28 | 21 | 26 | | 26 | 31 | 28 | 23 | 28 | 35 | 34 | 34 | 27 | 28 | | 28 | 32 | 35 | 25 | 32 | 29 | 34 | 34 | 30 | 26 | | 23 | 27 | 26 | 31 | 35 | 31 | 23 | 27 | 34 | 33 | | 33 | 25 | 28 | 30 | 23 | 27 | 31 | 31 | 37 | 34 | |
| Вариант 19  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 32 | 30 | 32 | 20 | 38 | 28 | 36 | 37 | 17 | 30 | | 29 | 22 | 28 | 33 | 29 | 34 | 25 | 24 | 35 | 25 | | 21 | 29 | 24 | 28 | 23 | 33 | 28 | 39 | 23 | 33 | | 32 | 38 | 31 | 31 | 30 | 28 | 23 | 32 | 27 | 34 | | 22 | 34 | 34 | 28 | 24 | 28 | 26 | 26 | 41 | 30 | | 27 | 34 | 37 | 25 | 34 | 32 | 34 | 28 | 34 | 28 | | 39 | 25 | 35 | 26 | 44 | 25 | 25 | 33 | 22 | 28 | | 25 | 31 | 29 | 28 | 31 | 35 | 29 | 29 | 44 | 29 | | 35 | 32 | 22 | 24 | 22 | 30 | 30 | 28 | 20 | 24 | | 29 | 30 | 31 | 33 | 28 | 34 | 27 | 27 | 30 | 35 | | Вариант 20   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 32 | 33 | 38 | 32 | 32 | 37 | 32 | 37 | 33 | 26 | | 28 | 37 | 38 | 26 | 22 | 28 | 35 | 27 | 20 | 17 | | 23 | 24 | 33 | 36 | 42 | 40 | 31 | 36 | 28 | 35 | | 26 | 32 | 36 | 29 | 26 | 29 | 23 | 34 | 36 | 29 | | 31 | 24 | 32 | 31 | 31 | 41 | 29 | 42 | 27 | 23 | | 28 | 21 | 34 | 31 | 38 | 20 | 23 | 30 | 27 | 25 | | 39 | 29 | 25 | 30 | 35 | 32 | 34 | 22 | 35 | 22 | | 33 | 38 | 14 | 35 | 16 | 19 | 34 | 16 | 31 | 27 | | 32 | 36 | 25 | 19 | 34 | 31 | 48 | 25 | 14 | 26 | | 26 | 27 | 32 | 24 | 37 | 43 | 31 | 31 | 28 | 31 | |
| Вариант 21  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 29 | 30 | 47 | 49 | 41 | 34 | 40 | 31 | 26 | 31 | | 34 | 37 | 15 | 25 | 41 | 22 | 30 | 33 | 19 | 32 | | 25 | 39 | 36 | 25 | 30 | 34 | 19 | 38 | 23 | 40 | | 31 | 49 | 30 | 24 | 37 | 34 | 33 | 30 | 32 | 43 | | 24 | 18 | 9 | 44 | 20 | 18 | 33 | 36 | 36 | 31 | | 46 | 28 | 35 | 30 | 15 | 27 | 29 | 22 | 27 | 31 | | 31 | 21 | 21 | 35 | 32 | 17 | 24 | 32 | 23 | 32 | | 27 | 19 | 29 | 29 | 29 | 37 | 30 | 29 | 30 | 35 | | 21 | 23 | 28 | 34 | 17 | 41 | 28 | 24 | 47 | 28 | | 36 | 28 | 38 | 22 | 32 | 33 | 23 | 36 | 31 | 21 | | Вариант 22  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 28 | 51 | 32 | 47 | 25 | 44 | 38 | 42 | 17 | 32 | | 35 | 26 | 37 | 21 | 22 | 28 | 31 | 21 | 22 | 21 | | 27 | 40 | 38 | 43 | 30 | 30 | 38 | 24 | 20 | 23 | | 29 | 40 | 24 | 16 | 27 | 38 | 22 | 35 | 29 | 31 | | 32 | 27 | 27 | 35 | 32 | 29 | 34 | 28 | 27 | 34 | | 24 | 29 | 31 | 25 | 36 | 47 | 27 | 35 | 21 | 48 | | 44 | 36 | 46 | 39 | 27 | 27 | 33 | 22 | 23 | 40 | | 23 | 37 | 42 | 30 | 30 | 35 | 24 | 23 | 29 | 32 | | 20 | 40 | 18 | 26 | 27 | 34 | 32 | 25 | 29 | 23 | | 44 | 26 | 39 | 33 | 18 | 42 | 25 | 35 | 30 | 19 | |
| Вариант 23  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 20 | 33 | 34 | 31 | 36 | 36 | 29 | 23 | 41 | 36 | | 35 | 29 | 17 | 39 | 21 | 34 | 45 | 31 | 22 | 35 | | 33 | 39 | 38 | 24 | 15 | 44 | 31 | 40 | 43 | 20 | | 34 | 33 | 34 | 21 | 25 | 30 | 32 | 27 | 17 | 47 | | 29 | 34 | 26 | 26 | 22 | 13 | 19 | 27 | 30 | 24 | | 36 | 44 | 29 | 4 | 41 | 36 | 36 | 20 | 30 | 22 | | 44 | 20 | 34 | 38 | 33 | 25 | 52 | 42 | 14 | 25 | | 43 | 38 | 38 | 21 | 34 | 26 | 31 | 32 | 31 | 32 | | 36 | 47 | 32 | 41 | 31 | 29 | 44 | 35 | 24 | 29 | | 29 | 40 | 29 | 33 | 35 | 34 | 43 | 24 | 27 | 36 | | Вариант 24  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 41 | 33 | 16 | 47 | 29 | 41 | 16 | 35 | 42 | 24 | | 31 | 27 | 15 | 22 | 15 | 42 | 30 | 8 | 29 | 26 | | 38 | 34 | 42 | 36 | 30 | 32 | 33 | 37 | 35 | 35 | | 36 | 37 | 39 | 44 | 43 | 46 | 40 | 42 | 19 | 40 | | 31 | 32 | 34 | 21 | 31 | 28 | 20 | 42 | 27 | 34 | | 40 | 17 | 60 | 34 | 40 | 31 | 27 | 34 | 18 | 30 | | 31 | 30 | 30 | 19 | 31 | 44 | 32 | 40 | 31 | 32 | | 28 | 26 | 29 | 26 | 29 | 56 | 40 | 27 | 22 | 35 | | 31 | 43 | 22 | 38 | 38 | 23 | 31 | 18 | 45 | 23 | | 28 | 24 | 31 | 20 | 45 | 15 | 37 | 38 | 49 | 23 | |
| Вариант 25  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 51 | 36 | 50 | 57 | 63 | 43 | 56 | 57 | 53 | 43 | | 42 | 52 | 51 | 70 | 61 | 53 | 75 | 58 | 59 | 42 | | 55 | 57 | 56 | 63 | 61 | 50 | 49 | 61 | 48 | 57 | | 38 | 57 | 65 | 51 | 60 | 63 | 61 | 56 | 44 | 55 | | 60 | 43 | 49 | 40 | 57 | 62 | 58 | 58 | 45 | 56 | | 43 | 52 | 65 | 45 | 53 | 52 | 45 | 39 | 55 | 54 | | 53 | 58 | 56 | 71 | 53 | 55 | 57 | 60 | 69 | 44 | | 61 | 52 | 43 | 46 | 47 | 50 | 53 | 57 | 63 | 55 | | 54 | 60 | 49 | 72 | 56 | 50 | 41 | 54 | 45 | 49 | | 28 | 56 | 77 | 46 | 46 | 47 | 58 | 56 | 56 | 48 | | Вариант 26   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 59 | 44 | 52 | 56 | 59 | 51 | 74 | 44 | 57 | 48 | | 45 | 56 | 42 | 48 | 63 | 60 | 56 | 51 | 57 | 60 | | 39 | 37 | 41 | 65 | 56 | 44 | 58 | 34 | 57 | 37 | | 61 | 49 | 64 | 43 | 55 | 56 | 44 | 52 | 69 | 63 | | 52 | 66 | 64 | 46 | 66 | 49 | 36 | 61 | 49 | 61 | | 42 | 58 | 57 | 53 | 47 | 40 | 32 | 44 | 52 | 70 | | 55 | 48 | 49 | 49 | 31 | 48 | 61 | 73 | 48 | 57 | | 65 | 53 | 54 | 51 | 62 | 54 | 76 | 39 | 54 | 54 | | 56 | 54 | 47 | 62 | 63 | 47 | 39 | 40 | 54 | 52 | | 51 | 71 | 45 | 69 | 64 | 57 | 48 | 47 | 60 | 52 | |
| Вариант 27  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 56 | 39 | 42 | 53 | 39 | 53 | 51 | 48 | 63 | 47 | | 50 | 63 | 53 | 40 | 55 | 67 | 68 | 50 | 59 | 60 | | 63 | 62 | 51 | 67 | 69 | 61 | 46 | 57 | 48 | 51 | | 55 | 58 | 55 | 45 | 52 | 39 | 57 | 52 | 53 | 60 | | 48 | 39 | 57 | 70 | 54 | 59 | 48 | 59 | 64 | 62 | | 72 | 52 | 45 | 70 | 56 | 55 | 56 | 65 | 64 | 55 | | 57 | 48 | 40 | 53 | 59 | 56 | 36 | 44 | 65 | 42 | | 54 | 61 | 49 | 57 | 52 | 56 | 44 | 67 | 50 | 52 | | 51 | 50 | 53 | 54 | 58 | 61 | 47 | 65 | 52 | 48 | | 55 | 50 | 72 | 49 | 61 | 41 | 51 | 60 | 46 | 53 | | Вариант 28   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 46 | 61 | 53 | 44 | 59 | 49 | 56 | 59 | 56 | 58 | | 53 | 53 | 55 | 44 | 63 | 53 | 67 | 64 | 46 | 43 | | 54 | 59 | 52 | 56 | 53 | 54 | 47 | 59 | 56 | 49 | | 58 | 52 | 48 | 67 | 48 | 52 | 52 | 52 | 58 | 63 | | 55 | 53 | 48 | 57 | 47 | 53 | 55 | 51 | 60 | 47 | | 56 | 47 | 54 | 49 | 59 | 56 | 58 | 64 | 50 | 45 | | 58 | 51 | 60 | 49 | 47 | 46 | 43 | 58 | 47 | 59 | | 58 | 43 | 58 | 52 | 59 | 56 | 39 | 63 | 49 | 48 | | 57 | 46 | 65 | 68 | 46 | 48 | 57 | 54 | 52 | 35 | | 52 | 53 | 54 | 55 | 55 | 52 | 55 | 57 | 42 | 53 | |
| Вариант 29  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 46 | 68 | 59 | 56 | 53 | 54 | 50 | 53 | 58 | 57 | | 57 | 55 | 63 | 57 | 50 | 48 | 59 | 58 | 53 | 46 | | 47 | 60 | 47 | 55 | 53 | 59 | 49 | 52 | 67 | 53 | | 58 | 50 | 49 | 53 | 56 | 64 | 51 | 61 | 65 | 63 | | 64 | 44 | 62 | 46 | 58 | 56 | 67 | 40 | 54 | 68 | | 59 | 62 | 56 | 67 | 51 | 51 | 56 | 55 | 56 | 51 | | 54 | 63 | 59 | 53 | 53 | 61 | 52 | 47 | 56 | 59 | | 52 | 63 | 55 | 53 | 46 | 54 | 53 | 45 | 49 | 54 | | 70 | 34 | 61 | 59 | 55 | 42 | 54 | 55 | 53 | 50 | | 51 | 50 | 48 | 55 | 62 | 48 | 46 | 54 | 55 | 60 | | Вариант 30  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 52 | 46 | 54 | 53 | 65 | 49 | 52 | 59 | 54 | 60 | | 58 | 58 | 49 | 47 | 52 | 42 | 52 | 59 | 48 | 58 | | 60 | 59 | 47 | 52 | 64 | 54 | 51 | 59 | 55 | 50 | | 55 | 62 | 55 | 58 | 53 | 46 | 57 | 52 | 60 | 57 | | 58 | 57 | 53 | 53 | 55 | 52 | 61 | 55 | 65 | 43 | | 52 | 48 | 48 | 63 | 61 | 49 | 58 | 57 | 55 | 48 | | 69 | 52 | 63 | 51 | 46 | 55 | 56 | 58 | 58 | 57 | | 58 | 57 | 55 | 51 | 68 | 46 | 57 | 64 | 54 | 61 | | 58 | 47 | 46 | 59 | 44 | 61 | 52 | 49 | 56 | 54 | | 62 | 53 | 66 | 53 | 64 | 53 | 58 | 62 | 55 | 58 | |
| Вариант 31  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 69 | 54 | 52 | 55 | 65 | 55 | 54 | 53 | 52 | 64 | | 57 | 62 | 45 | 50 | 46 | 58 | 54 | 57 | 57 | 56 | | 51 | 53 | 53 | 49 | 60 | 56 | 50 | 59 | 51 | 62 | | 56 | 55 | 52 | 59 | 63 | 51 | 52 | 44 | 49 | 57 | | 57 | 53 | 57 | 57 | 53 | 50 | 53 | 55 | 54 | 50 | | 47 | 46 | 57 | 52 | 60 | 53 | 52 | 54 | 57 | 52 | | 55 | 53 | 57 | 42 | 57 | 54 | 55 | 55 | 57 | 56 | | 52 | 52 | 51 | 52 | 52 | 58 | 53 | 53 | 55 | 57 | | 59 | 47 | 57 | 46 | 52 | 58 | 58 | 48 | 55 | 50 | | 56 | 53 | 58 | 60 | 56 | 53 | 57 | 53 | 52 | 59 | | Вариант 32  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 58 | 57 | 55 | 51 | 55 | 55 | 54 | 56 | 54 | 52 | | 57 | 50 | 51 | 55 | 53 | 53 | 52 | 56 | 57 | 56 | | 55 | 51 | 51 | 57 | 54 | 48 | 52 | 51 | 50 | 54 | | 54 | 59 | 60 | 56 | 49 | 55 | 53 | 53 | 55 | 52 | | 48 | 52 | 56 | 52 | 52 | 50 | 55 | 54 | 54 | 55 | | 54 | 56 | 48 | 54 | 53 | 51 | 56 | 54 | 56 | 55 | | 55 | 58 | 52 | 55 | 54 | 54 | 53 | 52 | 52 | 62 | | 55 | 56 | 55 | 55 | 53 | 52 | 49 | 56 | 54 | 55 | | 53 | 55 | 51 | 55 | 53 | 50 | 55 | 54 | 53 | 54 | | 52 | 54 | 53 | 54 | 58 | 55 | 53 | 55 | 55 | 52 | |