Every natural number from 1 to 99 has interesting properties, so we call them *mathemagical numbers*. While browsing these mathemagical numbers, if you are boggled by a word, browse the *Glossary* down yonder below the numbers.

In this unit you will find
- odd numbers and even numbers
- prime numbers, emirps, and palprimes
- composite numbers
- prime factorization of composite numbers
- factors and proper factors
- sums of factors and proper factors
- deficient numbers, perfect numbers, and abundant numbers
- square numbers and cubic numbers
- triangular numbers and factorial numbers
- Fibonacci numbers
- palindromic numbers
- number of protons in an atom
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1 (one)
1 is a natural number.
1 is the predecessor of 2.
1 does not have a predecessor.
1 is the least natural number.
1 is an odd number.
1 is the least odd number.
1 is not a prime number.
1 is not a composite number.
1 is the only natural number that has exactly 1 factor.
One and only factor of 1: 1
1 has no proper factor.
1 is a factor of every natural number.
1 is the multiplicative identity. \( 1 \times n = n \) and \( n \times 1 = n \).
1 is a square number. \( 1 = 1 \times 1 = 1^2 \)
1 is a cubic number. \( 1 = 1 \times 1 \times 1 = 1^3 \)
1 is a power of 2. \( 1 = 2^0 \)
1 is a triangular number.
1 is a factorial number. \( 1! = 1 \)
1 is a Fibonacci number.
Geometry: a ray has 1 endpoint.
A hydrogen (H) atom has 1 proton.

Here are some "onederful" words from an old folk song.

I'll sing you one-o
Green grow the rushes-o
What is your one-o?
One is one and all alone
And evermore shall be so.

2 (two)
2 is a natural number.
2 is the successor of 1.
2 is the predecessor of 3.
2 is an even number.
2 is the least even number.
2 is a prime number.
2 is the least prime number.
2 is the only even prime number.
Factors of 2: 1, 2
2 is the least number that has exactly 2 different factors.
Proper factor of 2: 1
2 is the least number that has exactly 1 proper factor.
Sum of factors of 2 = 3
Sum of proper factors of 2 = 1
2 is a deficient number.
2 is a power of 2. $2 = 2^1$
2 is a factorial number. $2! = 1 \times 2 = 2$
2 is a Fibonacci number.
Geometry: a line segment has 2 endpoints.
A helium (He) atom has 2 protons.

3 (three)
3 is a natural number.
3 is the successor of 2.
3 is the predecessor of 4.
3 is an odd number.
3 is a prime number.
3 is the least odd prime number.
Factors of 3: 1, 3
Proper factor of 3: 1
Sum of factors of 3 = 4
Sum of proper factors of 3 = 1
3 is a deficient number.
3 is a triangular number. $3 = 1 + 2$
3 is a Fibonacci number.
Geometry: a triangle has 3 sides and 3 vertices.
A lithium (Li) atom has 3 protons.

4 (four)
4 is a natural number.
4 is the successor of 3.
4 is the predecessor of 5.
4 is an even number.
4 is a composite number.
Prime factorization: $4 = 2 \times 2$
4 is the least composite number.
Factors of 4: 1, 2, 4
4 is the least number that has exactly 3 different factors.
Proper factors of 4: 1, 2
4 is the least natural number that has exactly 2 different proper factors.
Sum of factors of 4 = 7
Sum of proper factors of 4 = 3
4 is a deficient number.
4 is a square number. $4 = 2 \times 2 = 2^2$
4 is the sum of the first 2 odd numbers. $4 = 1 + 3$
4 is a power of 2. $4 = 2^2$
Geometry: a quadrilateral has 4 sides and 4 vertices.
Geometry: a parallelogram has 4 sides and 4 vertices.
Geometry: a rectangle has 4 sides and 4 vertices.
Geometry: a rhombus has 4 sides and 4 vertices.
Geometry: a square has 4 sides and 4 vertices.
Geometry: a tetrahedron has 4 faces and 4 vertices.
A heffalump has 4 legs.
A beryllium (Be) atom has 4 protons.

5 (five)
5 is a natural number.
5 is the successor of 4.
5 is the predecessor of 6.
5 is an odd number.
5 is a prime number.
Factors of 5: 1, 5
Proper factor of 5: 1
Sum of factors of 5 = 6
Sum of proper factors of 5 = 1
5 is a deficient number.
5 is a Fibonacci number.
5 is the sum of the first 2 prime numbers. $5 = 2 + 3$
5 is the sum of the first 2 square numbers. $5 = 1 + 4$
Geometry: a pentagon has 5 sides and 5 vertices.
Geometry: a pyramid has 5 faces and 5 vertices.
A boron (B) atom has 5 protons.

6 (six)
6 is a natural number.
6 is the successor of 5.
6 is the predecessor of 7.
6 is an even number.
6 is a composite number.
Prime factorization: 6 = 2 x 3
Factors of 6: 1, 2, 3, 6
6 is the least number that has exactly 4 different factors.
Proper factors of 6: 1, 2, 3
6 is the least number that has exactly 3 different proper factors.
Sum of factors of 6 = 12
Sum of proper factors of 6 = 6
6 is a perfect number.
6 is the least perfect number.
6 is a factorial number. $6 = 3! = 1 \times 2 \times 3$
6 is a triangular number. $6 = 1 + 2 + 3$
Geometry: a hexagon has 6 sides and 6 vertices.
Geometry: a hexahedron has 6 faces.
A carbon (C) atom has 6 protons.
7 (seven)
7 is a natural number.
7 is the successor of 6.
7 is the predecessor of 8.
7 is an odd number.
7 is a prime number.
Factors of 7: 1, 7
Proper factor of 7: 1
Sum of factors of 7 = 8
Sum of proper factors of 7 = 1
7 is a deficient number.
Geometry: a heptagon has 7 sides and 7 vertices.
Geometry: a heptahedron has 7 faces.
7 is the number of days in a week.
A nitrogen (N) atom has 7 protons.

8 (eight)
8 is a natural number.
8 is the successor of 7.
8 is the predecessor of 9.
8 is an even number.
8 is a composite number.
Prime factorization: 8 = 2 x 2 x 2
Factors of 8: 1, 2, 4, 8
Proper factors of 8: 1, 2, 4
Sum of factors of 8 = 15
Sum of proper factors of 8 = 7
8 is a deficient number.
8 is a cubic number. 8 = 2 x 2 x 2 = 2³
8 is a power of 2. 8 = 2³
8 is a Fibonacci number.
8 is the base of the octal number system.
Geometry: an octagon has 8 sides and 8 vertices.
Geometry: an octahedron has 8 faces.
An oxygen (O) atom has 8 protons.

9 (nine)
9 is a natural number.
9 is the successor of 8.
9 is the predecessor of 10.
9 is an odd number.
9 is a composite number.
Prime factorization: 9 = 3 x 3
Factors of 9: 1, 3, 9
Proper factors of 9: 1, 3
Sum of factors of 9 = 13
Sum of proper factors of 9 = 4
9 is a deficient number.
9 is a square number. $9 = 3 \times 3 = 3^2$
9 is the sum of the first 3 odd numbers. $9 = 1 + 3 + 5$
9 is the sum of the first 2 cubic numbers. $9 = 1 + 8$
Geometry: a nonagon has 9 sides and 9 vertices.
Geometry: a nonahedron has 9 faces.
A fluorine (F) atom has 9 protons.

10 (ten)
10 is a natural number.
10 is the successor of 9.
10 is the predecessor of 11.
10 is an even number.
10 is a composite number.
Prime factorization: $10 = 2 \times 5$
Factors of 10: 1, 2, 5, 10.
Proper factors of 10: 1, 2, 5.
Sum of factors of 10 = 18
Sum of proper factors of 10 = 8
10 is a deficient number.
10 is a triangular number. $10 = 1 + 2 + 3 + 4$
10 is the sum of the first 3 prime numbers. $10 = 2 + 3 + 5$
10 is the base of the decimal number system.
Geometry: a decagon has 10 sides and 10 vertices.
Geometry: a decahedron has 10 faces.
A neon (Ne) atom has 10 protons.

11 (eleven)
11 is a natural number.
11 is the successor of 10.
11 is the predecessor of 12.
11 is an odd number.
11 is a prime number.
11 is a palprime.
Factors of 11: 1, 11
Proper factor of 11: 1
Sum of factors of 11 = 12
Sum of proper factors of 11 = 1
11 is a deficient number.
11 is a palindromic number.
A sodium (Na) atom has 11 protons.

12 (twelve)
12 is a natural number.
12 is the successor of 11.
12 is the predecessor of 13.
12 is an even number.
12 is a composite number.
Prime factorization: $12 = 2 \times 2 \times 3$
Factors of 12: 1, 2, 3, 4, 6, 12
12 is the least number that has exactly 6 different factors.
Proper factors of 12: 1, 2, 3, 4, 6.
12 is the least number that has exactly 5 different proper factors.
Sum of factors of 12 = 28
Sum of proper factors of 12 = 16
12 is an abundant number.
12 is the least number that is an abundant number.
Geometry: a dodecagon has 12 sides and 12 vertices.
Geometry: a dodecahedron has 12 faces.
12 is the number of objects in a dozen objects.
A magnesium (Mg) atom has 12 protons.

13 (thirteen)
13 is a natural number.
13 is the successor of 12.
13 is the predecessor of 14.
13 is an odd number.
13 is a prime number.
13 is an emirp. (31 is a prime number.)
Factors of 13: 1, 13
Proper factor of 13: 1
Sum of factors of 13 = 14
Sum of proper factors of 13 = 1
13 is a deficient number.
13 is a Fibonacci number.
Triskaidekaphobia is the fear of 13.
Triskaidekaphilia is the love of 13.
An aluminum (Al) atom has 13 protons.

14 (fourteen)
14 is a natural number.
14 is the successor of 13.
14 is the predecessor of 15.
14 is an even number.
14 is a composite number.
Prime factorization: $14 = 2 \times 7$
Factors of 14: 1, 2, 7, 14
Proper factors of 14: 1, 2, 7
Sum of factors of 14 = 24
Sum of proper factors of 14 = 10
14 is a deficient number.
14 is the sum of the first 3 square numbers. 14 = 1 + 4 + 9
A silicon (Si) atom has 14 protons.

15 (fifteen)
15 is a natural number.
15 is the successor of 14.
15 is the predecessor of 16.
15 is an odd number.
15 is a composite number.
Prime factorization: 15 = 3 x 5
Factors of 15: 1, 3, 5, 15
Proper factors of 15: 1, 3, 5
Sum of factors of 15 = 24
Sum of proper factors of 15 = 9
15 is a deficient number.
15 is a triangular number. 15 = 1 + 2 + 3 + 4 + 5
A phosphorus (P) atom has 15 protons.

16 (sixteen)
16 is a natural number.
16 is the successor of 15.
16 is the predecessor of 17.
16 is an even number.
16 is a composite number.
Prime factorization: 16 = 2 x 2 x 2 x 2
Factors of 16: 1, 2, 4, 8, 16.
16 is the least natural number that has exactly 5 different factors.
Proper factors of 16: 1, 2, 4, 8.
16 is the least natural number that has exactly 4 different proper factors.
Sum of factors of 16 = 31
Sum of proper factors of 16 = 15
16 is a deficient number.
16 is a square number. 16 = 4 x 4 = 4²
16 is the sum of the first 4 odd numbers. 16 = 1 + 3 + 5 + 7
16 is a power of 2. 16 = 2⁴
A sulfur (S) atom has 16 protons.

17 (seventeen)
17 is a natural number.
17 is the successor of 16.
17 is the predecessor of 18.
17 is an odd number.
17 is a prime number.
17 is an emirp. (71 is a prime number.)
Factors of 17: 1, 17
Proper factor of 17: 1
Sum of factors of 17 = 18
Sum of proper factors of 17 = 1
17 is a deficient number.
17 is the sum of the first 4 prime numbers. 17 = 2 + 3 + 5 + 7
A chlorine (Cl) atom has 17 protons.

18 (eighteen)
18 is a natural number.
18 is the successor of 17.
18 is the predecessor of 19.
18 is an even number.
18 is a composite number.
Prime factorization: 18 = 2 x 3 x 3
Factors of 18: 1, 2, 3, 6, 9, 18
Proper factors of 18: 1, 2, 3, 6, 9
Sum of factors of 18 = 39
Sum of proper factors of 18 = 21
18 is an abundant number.
An argon (Ar) atom has 18 protons.

19 (nineteen)
19 is a natural number.
19 is the successor of 18.
19 is the predecessor of 20.
19 is an odd number.
19 is a prime number.
Factors of 19: 1, 19
Proper factor of 19: 1
Sum of factors of 19 = 20
Sum of proper factors of 19 = 1
19 is a deficient number.
A potassium (K) atom has 19 protons.

20 (twenty)
20 is a natural number.
20 is the successor of 19.
20 is the predecessor of 21.
20 is an even number.
20 is a composite number.
Prime factorization: 20 = 2 x 2 x 5
Factors of 20: 1, 2, 4, 5, 10, 20
Proper factors of 20: 1, 2, 4, 5, 10
Sum of factors of 20 = 42
Sum of proper factors of 20 = 22
20 is an abundant number.
Geometry: an icosagon has 20 sides and 20 vertices.
Geometry: an icosahedron has 20 faces.
A calcium (Ca) atom has 20 protons.

21 (twenty-one)
21 is a natural number.
21 is the successor of 20.
21 is the predecessor of 22.
21 is an odd number.
21 is a composite number.
Prime factorization: 21 = 3 x 7
Factors of 21: 1, 3, 7, 21
Proper factors of 21: 1, 3, 7
Sum of factors of 21 = 32
Sum of proper factors of 21 = 11
21 is a deficient number.
21 is a triangular number. 21 = 1 + 2 + 3 + 4 + 5 + 6
21 is a Fibonacci number.
A scandium (Sc) atom has 21 protons.

22 (twenty-two)
22 is a natural number.
22 is the successor of 21.
22 is the predecessor of 23.
22 is an even number.
22 is a composite number.
Prime factorization: 22 = 2 x 11
Factors of 22: 1, 2, 11, 22
Proper factors of 22: 1, 2, 11
Sum of factors of 22 = 36
Sum of proper factors of 22 = 14
22 is a deficient number.
22 is a palindromic number.
A titanium (Ti) atom has 22 protons.

23 (twenty-three)
23 is a natural number.
23 is the successor of 22.
23 is the predecessor of 24.
23 is an odd number.
23 is a prime number.
Factors of 23: 1, 23
Proper factor of 23: 1  
Sum of factors of 23 = 24  
Sum of proper factors of 23 = 1  
23 is a deficient number.  
A vanadium (V) atom has 23 protons.

24 (twenty-four)

24 is a natural number.  
24 is the successor of 23.  
24 is the predecessor of 25.  
24 is an even number.  
24 is a composite number.  
Prime factorization: 24 = 2 x 2 x 2 x 3  
Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24  
24 is the least number that has 8 different factors.  
Proper factors of 24: 1, 2, 3, 4, 6, 8, 12.  
24 is the least number that has 7 different proper factors.  
Sum of factors of 24 = 60  
Sum of proper factors of 24 = 36  
24 is an abundant number.  
24 is a factorial number. 4! = 1 x 2 x 3 x 4 = 24  
A chromium (Cr) atom has 24 protons.

25 (twenty-five)

25 is a natural number.  
25 is the successor of 24.  
25 is the predecessor of 26.  
25 is an odd number.  
25 is composite number.  
Prime factorization: 25 = 5 x 5  
Factors of 25: 1, 5, 25  
Proper factors of 25: 1, 5  
Sum of factors of 25 = 31  
Sum of proper factors of 25 = 6  
25 is a deficient number.  
25 is a square number. 25 = 5 x 5 = 5²  
25 is the sum of the first 5 odd numbers. 25 = 1 + 3 + 5 + 7 + 9  
25 is the number of prime numbers less than 100.  
A manganese (Mn) atom has 25 protons.

26 (twenty-six)

26 is a natural number.  
26 is the successor of 25.  
26 is the predecessor of 27.  
26 is an even number.
26 is a composite number.
Prime factorization: $26 = 2 \times 13$
Factors of 26: 1, 2, 13, 26
Proper factors of 26: 1, 2, 13
Sum of factors of 26 = 42
Sum of proper factors of 26 = 16
26 is a deficient number.
An iron (Fe) atom has 26 protons.

27 (twenty-seven)
27 is a natural number.
27 is the successor of 26.
27 is the predecessor of 28.
27 is an odd number.
27 is a composite number.
Prime factorization: $27 = 3 \times 3 \times 3$
Factors of 27: 1, 3, 9, 27
Proper factors of 27: 1, 3, 9
Sum of factors of 27 = 40
Sum of proper factors of 27 = 13
27 is a deficient number.
27 is a cubic number. $27 = 3 \times 3 \times 3 = 3^3$
A cobalt (Co) atom has 27 protons.

28 (twenty-eight)
28 is a natural number.
28 is the successor of 27.
28 is the predecessor of 29.
28 is an even number.
28 is a composite number.
Prime factorization: $28 = 2 \times 2 \times 7$
Factors of 28: 1, 2, 4, 7, 14, 28
Proper factors of 28: 1, 2, 4, 7, 14
Sum of factors of 28 = 56
Sum of proper factors of 28 = 28
28 is a perfect number.
28 is a triangular number. $28 = 1 + 2 + 3 + 4 + 5 + 6 + 7$
28 is the sum of the first 5 prime numbers. $28 = 2 + 3 + 5 + 7 + 11$
A nickel (Ni) atom has 28 protons.

29 (twenty-nine)
29 is a natural number.
29 is the successor of 28.
29 is the predecessor of 30.
29 is an odd number.
29 is a prime number.
Factors of 29: 1, 29
Proper factor of 29: 1
Sum of factors of 29 = 30
Sum of proper factors of 29 = 1
29 is a deficient number.
A copper (Cu) atom has 29 protons.

30 (thirty)
30 is a natural number.
30 is the successor of 29.
30 is the predecessor of 31.
30 is an even number.
30 is a composite number.
Prime factorization: 30 = 2 x 3 x 5
Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
Proper factors of 30: 1, 2, 3, 5, 6, 10, 15
Sum of factors of 30 = 72
Sum of proper factors of 30 = 42
30 is an abundant number.
30 is the sum of the first 4 square numbers. 30 = 1 + 4 + 9 + 16
A zinc (Zn) atom has 30 protons.

31 (thirty-one)
31 is a natural number.
31 is the successor of 30.
31 is the predecessor of 32.
31 is an odd number.
31 is a prime number.
31 is an emirp. (13 is a prime number.)
Factors of 31: 1, 31
Proper factor of 31: 1
Sum of factors of 31 = 32
Sum of proper factors of 31 = 1
31 is a deficient number.
A gallium (Ga) atom has 31 protons.

32 (thirty-two)
32 is a natural number.
32 is the successor of 31.
32 is the predecessor of 33.
32 is an even number.
32 is a composite number.
Prime factorization: 32 = 2 x 2 x 2 x 2 x 2
Factors of 32: 1, 2, 4, 8, 16, 32
Proper factors of 32: 1, 2, 4, 8, 16
Sum of factors of 32 = 63
Sum of proper factors of 32 = 31
32 is a deficient number.
32 is a power of 2. $32 = 2^5$
A germanium (Ge) atom has 32 protons.

**33 (thirty three)**

33 is a natural number.
33 is the successor of 32.
33 is the predecessor of 34.
33 is an odd number.
33 is a composite number.
Prime factorization: $33 = 3 \times 11$
Factors of 33: 1, 3, 11, 33
Proper factors of 33: 1, 3, 11
Sum of factors of 33 = 48
Sum of proper factors of 33 = 15
33 is a deficient number.
33 is a palindromic number.
An arsenic (As) atom has 33 protons.

**34 (thirty four)**

34 is a natural number.
34 is the successor of 33.
34 is the predecessor of 35.
34 is an even number.
34 is a composite number.
Prime factorization: $34 = 2 \times 17$
Factors of 34: 1, 2, 17, 34
Proper factors of 34: 1, 2, 17
Sum of factors of 34 = 54
Sum of proper factors of 34 = 20
34 is a deficient number.
34 is a Fibonacci number.
A selenium (Se) atom has 34 protons.

**35 (thirty five)**

35 is a natural number.
35 is the successor of 34.
35 is the predecessor of 36.
35 is an odd number.
35 is a composite number.
Prime factorization: $35 = 5 \times 7$
Factors of 35: 1, 5, 7, 35
Proper factors of 35: 1, 5, 7
Sum of factors of 35 = 48
Sum of proper factors of 35 = 13
35 is a deficient number.
A Bromine (Br) atom has 35 protons.

36 (thirty six)

36 is a natural number.
36 is the successor of 35.
36 is the predecessor of 37.
36 is an even number.
36 is a composite number.
Prime factorization: 36 = 2 x 2 x 3 x 3
Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36
36 is the least number with exactly 9 factors.
Proper factors of 36: 1, 2, 3, 4, 6, 9, 12, 18
36 is the least number with exactly 8 proper factors.
Sum of factors of 36 = 91
Sum of proper factors of 36 = 55
36 is an abundant number.
36 is a square number. 36 = 6 x 6 = 6²
36 is the sum of the first 6 odd numbers. 36 = 1 + 3 + 5 + 7 + 9 + 11
36 is a triangular number. 36 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8
36 is the sum of the first 3 cubic numbers. 36 = 1 + 8 + 27
A krypton (Kr) atom has 36 protons.

37 (thirty seven)

37 is a natural number.
37 is the successor of 36.
37 is the predecessor of 38.
37 is an odd number.
37 is a prime number.
37 is an emirp. (73 is a prime number.)
Factors of 37: 1, 37
Proper factor of 37: 1
Sum of factors of 37 = 38
Sum of proper factors of 37 = 1
37 is a deficient number.
37 degrees Celsius is typical human body temperature.
A rubidium (Rb) atom has 37 protons.

38 (thirty eight)

38 is a natural number.
38 is the successor of 37.
38 is the predecessor of 39.
38 is an even number.
38 is a composite number.
Prime factorization: \(38 = 2 \times 19\)
Factors of 38: 1, 2, 19, 38
Proper factors of 38: 1, 2, 19
Sum of factors of 38 = 60
Sum of proper factors of 38 = 22
38 is a deficient number.
A strontium (Sr) atom has 38 protons.

39 (thirty nine)
39 is a natural number.
39 is the successor of 38.
39 is the predecessor of 40.
39 is an odd number.
39 is a composite number.
Prime factorization: \(39 = 3 \times 13\)
Factors of 39: 1, 3, 13, 39
Proper factors of 39: 1, 3, 13
Sum of factors of 39 = 56
Sum of proper factors of 39 = 17
39 is a deficient number.
A yttrium (Y) atom has 39 protons.

40 (forty)
40 is a natural number.
40 is the successor of 39.
40 is the predecessor of 41.
40 is an even number.
40 is a composite number.
Prime factorization: \(40 = 2 \times 2 \times 2 \times 5\)
Factors of 40: 1, 2, 4, 5, 8, 10, 20, 40
Proper factors of 40: 1, 2, 4, 5, 8, 10, 20
Sum of factors of 40: 90
Sum of proper factors of 40: 50
40 is an abundant number.
A zirconium (Zr) atom has 40 protons.

41 (forty one)
41 is a natural number.
41 is the successor of 40.
41 is the predecessor of 42.
41 is an odd number.
41 is a prime number.
Factors of 41: 1, 41
Proper factor of 41: 1
Sum of factors of 41 = 42
Sum of proper factors of 41 = 1
41 is a deficient number.
41 is the sum of the first 6 prime numbers. $28 = 2 + 3 + 5 + 7 + 11 + 13$
A niobium (Nb) atom has 41 protons.

**42 (forty two)**

42 is a natural number.
42 is the successor of 41.
42 is the predecessor of 43.
42 is an even number.
42 is a composite number.
Prime factorization: $42 = 2 \times 3 \times 7$
Factors of 42: 1, 2, 3, 6, 7, 14, 21, 42
Proper factors of 42: 1, 2, 3, 6, 7, 14, 21
Sum of factors of 42 = 96
Sum of proper factors of 42 = 54
42 is an abundant number.
A molybdenum (Mo) atom has 42 protons.

**43 (forty three)**

43 is a natural number.
43 is the successor of 42.
43 is the predecessor of 44.
43 is an odd number.
43 is a prime number.
Factors of 43: 1, 43
Proper factor of 43: 1
Sum of factors of 43 = 44
Sum of proper factors of 43 = 1
43 is a deficient number.
A technicium (Tc) atom has 43 protons.

**44 (forty four)**

44 is a natural number.
44 is the successor of 43.
44 is the predecessor of 45.
44 is an even number.
44 is a composite number.
Prime factorization: $44 = 2 \times 2 \times 11$
Factors of 44: 1, 2, 4, 11, 22, 44
Proper factors of 44: 1, 2, 4, 11, 22
Sum of factors of 44: 84
Sum of proper factors of 44: 40
44 is a deficient number.
44 is a palindromic number.
A ruthenium (Ru) atom has 44 protons.

**45 (forty five)**

45 is a natural number.
45 is the successor of 44.
45 is the predecessor of 46.
45 is an odd number.
45 is a composite number.
Prime factorization: $45 = 3 \times 3 \times 5$
Factors of 45: 1, 3, 5, 9, 15, 45
Proper factors of 45: 1, 3, 5, 9, 15
Sum of factors of 45 = 78
Sum of proper factors of 45 = 33
45 is a deficient number.
45 is a triangular number. $45 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9$
A rhodium (Rh) atom has 45 protons.

**46 (forty six)**

46 is a natural number.
46 is the successor of 45.
46 is the predecessor of 47.
46 is an even number.
46 is a composite number.
Prime factorization: $46 = 2 \times 23$
Factors of 46: 1, 2, 23, 46
Proper factors of 46: 1, 2, 23
Sum of factors of 46 = 72
Sum of proper factors of 46 = 26
46 is a deficient number.
A palladium (Pd) atom has 46 protons.

**47 (forty seven)**

47 is a natural number.
47 is the successor of 46.
47 is the predecessor of 48.
47 is an odd number.
47 is a prime number.
Factors of 47: 1, 47
Proper factor of 47: 1
Sum of factors of 47 = 48
Sum of proper factors of 47 = 1
47 is a deficient number.
A silver (Ag) atom has 47 protons.
48 (forty eight)
48 is a natural number.
48 is the successor of 47.
48 is the predecessor of 49.
48 is an even number.
48 is a composite number.
Prime factorization: \(48 = 2 \times 2 \times 2 \times 2 \times 3\)
Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
48 is the least number that has exactly 10 factors.
Proper factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24
48 is the least number that has exactly 9 proper factors.
Sum of factors of 48 = 124
Sum of proper factors of 48 = 76
48 is an abundant number.
A cadmium (Cd) atom has 48 protons.

49 (forty nine)
49 is a natural number.
49 is the successor of 48.
49 is the predecessor of 50.
49 is an odd number.
49 is a composite number.
Prime factorization: \(49 = 7 \times 7\)
Factors of 49: 1, 7, 49
Proper factors of 49: 1, 7
Sum of factors of 49 = 57
Sum of proper factors of 49 = 8
49 is a deficient number.
49 is a square number: \(49 = 7 \times 7 = 7^2\)
49 is the sum of the first 7 odd numbers. \(49 = 1 + 3 + 5 + 7 + 9 + 11 + 13\)
An indium (In) atom has 49 protons.

50 (fifty)
50 is a natural number.
50 is the successor of 49.
50 is the predecessor of 51.
50 is an even number.
50 is a composite number.
Prime factorization: \(50 = 2 \times 5 \times 5\)
Factors of 50: 1, 2, 5, 10, 25, 50
Proper factors of 50: 1, 2, 5, 10, 25
Sum of factors of 50 = 93
Sum of proper factors of 50 = 43
50 is a deficient number.
A tin (Sn) atom has 50 protons.

51 (fifty one)
51 is a natural number.
51 is the successor of 50.
51 is the predecessor of 52.
51 is an odd number.
51 is a composite number.
Prime factorization: $51 = 3 \times 17$
Factors of 51: 1, 3, 17, 51
Proper factors of 51: 1, 3, 17
Sum of factors of 51 = 72
Sum of proper factors of 51 = 21
51 is a deficient number.
An antimony (Sb) atom has 51 protons.

52 (fifty two)
52 is a natural number.
52 is the successor of 51.
52 is the predecessor of 53.
52 is an even number.
52 is a composite number.
Prime factorization: $52 = 2 \times 2 \times 13$
Factors of 52: 1, 2, 4, 13, 26, 52
Proper factors of 52: 1, 2, 4, 13, 26
Sum of factors of 52 = 98
Sum of proper factors of 52 = 46
52 is a deficient number.
52 is the number of months in a year.
A tellerium (Te) atom has 52 protons.

53 (fifty three)
53 is a natural number.
53 is the successor of 52.
53 is the predecessor of 54.
53 is an odd number.
53 is a prime number.
Factors of 53: 1, 53
Proper factor of 53: 1
Sum of factors of 53 = 54
Sum of proper factors of 53 = 1
53 is a deficient number.
An iodine (I) atom has 53 protons.

54 (fifty four)
54 is a natural number.
54 is the successor of 53.
54 is the predecessor of 55.
54 is an even number.
54 is a composite number.
Prime factorization: 54 = 2 x 3 x 3 x 3
Factors of 54: 1, 2, 3, 6, 9, 18, 27, 54
Proper factors of 54: 1, 2, 3, 6, 9, 18, 27
Sum of factors of 54 = 120
Sum of proper factors of 54 = 66
A xenon (Xe) atom has 54 protons.

55 (fifty five)
55 is a natural number.
55 is the successor of 54.
55 is the predecessor of 56.
55 is an odd number.
55 is a composite number.
Prime factorization: 55 = 5 x 11
Factors of 55: 1, 5, 11, 55
Proper factors of 55: 1, 5, 11
Sum of factors of 55 = 72
Sum of proper factors of 55 = 17
55 is a deficient number.
55 is a triangular number. \(55 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10\)
55 is a Fibonacci number.
55 is the sum of the first 5 square numbers. \(55 = 1 + 4 + 9 + 16 + 25\)
55 is a palindromic number.
A cesium (Cs) atom has 55 protons.

56 (fifty six)
56 is a natural number.
56 is the successor of 55.
56 is the predecessor of 57.
56 is an even number.
56 is a composite number.
Prime factorization: 56 = 2 x 2 x 2 x 7
Factors of 56: 1, 2, 4, 7, 8, 14, 28, 56
Proper factors of 56: 1, 2, 4, 7, 8, 14, 28
Sum of factors of 56 = 120
Sum of proper factors of 56 = 64
56 is an abundant number.
A barium (Ba) atom has 56 protons.

57 (fifty seven)
57 is a natural number.
57 is the successor of 56.
57 is the predecessor of 58.
57 is an odd number.
57 is a composite number.
Prime factorization: $57 = 3 \times 19$
Factors of 57: 1, 3, 19, 57
Proper factors of 57: 1, 3, 19
Sum of factors of 57 = 80
Sum of proper factors of 57 = 23
57 is a deficient number.
A lanthanum (La) atom has 57 protons.

58 (fifty eight)
58 is a natural number.
58 is the successor of 57.
58 is the predecessor of 59.
58 is an even number.
58 is a composite number.
Prime factorization: $58 = 2 \times 29$
Factors of 58: 1, 2, 29, 58
Proper factors of 58: 1, 2, 29
Sum of factors of 58 = 90
Sum of proper factors of 58 = 32
58 is a deficient number.
58 is the sum of the first 7 prime numbers. $58 = 2 + 3 + 5 + 7 + 11 + 13 + 17$
A cerium (Ce) atom has 58 protons.

59 (fifty nine)
59 is a natural number.
59 is the successor of 58.
59 is the predecessor of 60.
59 is an odd number.
59 is a prime number.
Factors of 59: 1, 59
Proper factor of 59: 1
Sum of factors of 59 = 60
Sum of proper factors of 59 = 1
59 is a deficient number.
A praseodymium (Pr) atom has 59 protons.

60 (sixty)
60 is a natural number.
60 is the successor of 59.
60 is the predecessor of 61.
60 is an even number.
60 is a composite number.
Prime factorization: $60 = 2 \times 2 \times 3 \times 5$
Factors of 60: $1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60$
60 is the least number that has exactly 12 factors.
Proper factors of 60: $1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30$
60 is the least number that has exactly 11 proper factors.
Sum of factors of 60 = 168
Sum of proper factors of 60 = 108
60 is an abundant number.
60 seconds = 1 minute
60 minutes = 1 hour
60 arc seconds = 1 arc minute
60 arc minutes = 1 degree
60 is the base of the Babylonian number system.
A neodymium (Nd) atom has 60 protons.

61 (sixty one)
61 is a natural number.
61 is the successor of 60.
61 is the predecessor of 62.
61 is an odd number.
61 is a prime number.
Factors of 61: 1, 61
Proper factor of 61: 1
Sum of factors of 61 = 62
Sum of proper factors of 61 = 1
61 is a deficient number.
A promethium (Pm) atom has 61 protons.

62 (sixty two)
62 is a natural number.
62 is the successor of 61.
62 is the predecessor of 63.
62 is an even number.
62 is a composite number.
Prime factorization: $62 = 2 \times 31$
Factors of 62: 1, 2, 31, 62
Proper factors of 62: 1, 2, 31
Sum of factors of 62 = 96
Sum of proper factors of 62 = 34
62 is a deficient number.
A samarium (Sm) atom has 62 protons.

63 (sixty three)
63 is a natural number.
63 is the successor of 62.
63 is the predecessor of 64.
63 is an odd number.
63 is a composite number.
Prime factorization: $63 = 3 \times 3 \times 7$
Factors of 63: 1, 3, 7, 9, 21, 63
Proper factors of 63: 1, 3, 7, 9, 21
Sum of factors of 63 = 104
Sum of proper factors of 63 = 41
63 is a deficient number.
A europium (Eu) atom has 63 protons.

64 (sixty four)
64 is a natural number.
64 is the successor of 63.
64 is the predecessor of 65.
64 is an even number.
64 is a composite number.
Prime factorization: $64 = 2 \times 2 \times 2 \times 2 \times 2$
Factors of 64: 1, 2, 4, 8, 16, 32, 64
64 is the least number that has exactly 7 factors.
Proper factors of 64: 1, 2, 4, 8, 16, 32
64 is the least number that has exactly 6 proper factors.
Sum of factors of 64 = 127
Sum of proper factors of 64 = 63
64 is a square number: $64 = 8 \times 8 = 8^2$
64 is the sum of the first 8 odd numbers. $64 = 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15$
64 is a cubic number: $64 = 4 \times 4 \times 4 = 4^3$
64 is a power of 2. $64 = 2^6$
A gadolinium (Gd) atom has 64 protons.

65 (sixty five)
65 is a natural number.
65 is the successor of 64.
65 is the predecessor of 66.
65 is an odd number.
65 is a composite number.
Prime factorization: $65 = 5 \times 13$
Factors of 65: 1, 5, 13, 65
Proper factors of 65: 1, 5, 13
Sum of factors of 65 = 84
Sum of proper factors of 65 = 19
65 is a deficient number.
A terbium (Tb) atom has 65 protons.
66 (sixty six)
66 is a natural number.
66 is the successor of 65.
66 is the predecessor of 67.
66 is an even number.
66 is a composite number.
Prime factorization: 66 = 2 x 3 x 11
Factors of 66: 1, 2, 3, 6, 11, 22, 33, 66
Proper factors of 66: 1, 2, 3, 6, 11, 22, 33
Sum of factors of 66 = 144
Sum of proper factors of 66 = 78
66 is an abundant number.
66 is a triangular number. 66 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11
66 is a palindromic number.
A dysprosium (Dy) atom has 66 protons.

67 (sixty seven)
67 is a natural number.
67 is the successor of 66.
67 is the predecessor of 68.
67 is an odd number.
67 is a prime number.
Factors of 67: 1, 67
Proper factor of 67: 1
Sum of factors of 67 = 68
Sum of proper factors of 67 = 1
67 is a deficient number.
A holmium (Ho) atom has 67 protons.

68 (sixty eight)
68 is a natural number.
68 is the successor of 67.
68 is the predecessor of 69.
68 is an even number.
68 is a composite number.
Prime factorization: 68 = 2 x 2 x 17
Factors of 68: 1, 2, 4, 17, 34, 68
Proper factors of 68: 1, 2, 4, 17, 34
Sum of factors of 68 = 126
Sum of proper factors of 68 = 58
68 is a deficient number.
An erbium (Er) atom has 68 protons.

69 (sixty nine)
69 is a natural number.
69 is the successor of 68.
69 is the predecessor of 70.
69 is an odd number.
69 is a composite number.
Prime factorization: $69 = 3 \times 23$
Factors of 69: 1, 3, 23, 69
Proper factors of 69: 1, 3, 23
Sum of factors of 69 = 96
Sum of proper factors of 69 = 27
69 is a deficient number.
A thulium (Tm) atom has 69 protons.

70 (seventy)
70 is a natural number.
70 is the successor of 69.
70 is the predecessor of 71.
70 is an even number.
70 is a composite number.
Prime factorization: $70 = 2 \times 5 \times 7$
Factors of 70: 1, 2, 5, 7, 10, 14, 35, 70
Proper factors of 70: 1, 2, 5, 7, 10, 14, 35
Sum of factors of 70 = 144
Sum of proper factors of 70 = 74
70 is an abundant number.
A ytterbium (Yb) atom has 70 protons.

71 (seventy one)
71 is a natural number.
71 is the successor of 70.
71 is the predecessor of 72.
71 is an odd number.
71 is a prime number.
71 is an emirp. (17 is a prime number.)
Factors of 71: 1, 71
Proper factor of 71: 1
Sum of factors of 71 = 72
Sum of proper factors of 71 = 1
71 is a deficient number.
A lutetium (Lu) atom has 71 protons.

72 (seventy two)
72 is a natural number.
72 is the successor of 71.
72 is the predecessor of 73.
72 is an even number.
72 is a composite number.
Prime factorization: \(72 = 2 \times 2 \times 2 \times 3 \times 3\)
Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
Proper factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36
Sum of factors of 72 = 195
Sum of proper factors of 72 = 123
72 is an abundant number.
A hafnium (Hf) atom has 72 protons.

73 \textbf{(seventy three)}
73 is a natural number.
73 is the successor of 72.
73 is the predecessor of 74.
73 is an odd number.
73 is a prime number.
73 is an emirp. (37 is a prime number.)
Factors of 73: 1, 73
Proper factor of 73: 1
Sum of factors of 73 = 74
Sum of proper factors of 73 = 1
73 is a deficient number.
A tantalum (Ta) atom has 73 protons.

74 \textbf{(seventy four)}
74 is a natural number.
74 is the successor of 73.
74 is the predecessor of 75.
74 is an even number.
74 is a composite number.
Prime factorization: \(74 = 2 \times 37\)
Factors of 74: 1, 2, 37, 74
Proper factors of 74: 1, 2, 37
Sum of factors of 74 = 114
Sum of proper factors of 74 = 40
74 is a deficient number.
A tungsten (W) atom has 74 protons.

75 \textbf{(seventy five)}
75 is a natural number.
75 is the successor of 74.
75 is the predecessor of 76.
75 is an odd number.
75 is a composite number.
Prime factorization: \(75 = 3 \times 5 \times 5\)
Factors of 75: 1, 3, 5, 15, 25, 75
Proper factors of 75: 1, 3, 5, 15, 25
Sum of factors of 75 = 124
Sum of proper factors of 75 = 49
75 is a deficient number.
A rhenium (Re) atom has 75 protons.

76 (seventy six)
76 is a natural number.
76 is the successor of 75.
76 is the predecessor of 77.
76 is an even number.
76 is a composite number.
Prime factorization: $76 = 2 \times 2 \times 19$
Factors of 76: 1, 2, 4, 19, 38, 76
Proper factors of 76: 1, 2, 4, 19, 38
Sum of factors of 76 = 140
Sum of proper factors of 76 = 64
76 is a deficient number.
76 trombones led the big parade.
An osmium (Os) atom has 76 protons.

77 (seventy seven)
77 is a natural number.
77 is the successor of 76.
77 is the predecessor of 78.
77 is an odd number.
77 is a composite number.
Prime factorization: $77 = 7 \times 11$
Factors of 77: 1, 7, 11, 77
Proper factors of 77: 1, 7, 11
Sum of factors of 77 = 96
Sum of proper factors of 77 = 19
77 is a deficient number.
77 is a palindromic number.
77 is the sum of the first 8 prime numbers. $77 = 2 + 3 + 5 + 7 + 11 + 13 + 17 + 19$
An iridium (Ir) atom has 77 protons.

78 (seventy eight)
78 is a natural number.
78 is the successor of 77.
78 is the predecessor of 79.
78 is an even number.
78 is a composite number.
Prime factorization: $78 = 2 \times 3 \times 13$
Factors of 78: 1, 2, 3, 6, 13, 26, 39, 78
Proper factors of 78: 1, 2, 3, 6, 13, 26, 39
Sum of factors of 78 = 168
Sum of proper factors of 78 = 90
78 is an abundant number
78 is a triangular number. $78 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12$
A platinum (Pt) atom has 78 protons.

**79 (seventy nine)**

79 is a natural number.
79 is the successor of 78.
79 is the predecessor of 80.
79 is an odd number.
79 is a prime number.
79 is an emirp. (97 is a prime number.)
Factors of 79: 1, 79
Proper factor of 79: 1
Sum of factors of 79 = 80
Sum of proper factors of 79 = 1
79 is a deficient number.
A gold (Au) atom has 79 protons.

**80 (eighty)**

80 is a natural number.
80 is the successor of 79.
80 is the predecessor of 81.
80 is an even number.
80 is a composite number.
Prime factorization: $80 = 2 \times 2 \times 2 \times 2 \times 5$
Factors of 80: 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
Proper factors of 80: 1, 2, 4, 5, 8, 10, 16, 20, 40
Sum of factors of 80 = 186
Sum of proper factors of 80 = 106
80 is an abundant number.
A mercury (Hg) atom has 80 protons.

**81 (eighty one)**

81 is a natural number.
81 is the successor of 80.
81 is the predecessor of 82.
81 is an odd number.
81 is a composite number.
Prime factorization: $81 = 3 \times 3 \times 3 \times 3$
Factors of 81: 1, 3, 9, 27, 81
Proper factors of 81: 1, 3, 9, 27
Sum of factors of 81 = 121
Sum of proper factors of 81 = 40
81 is a deficient number.
81 is a square number: $81 = 9 \times 9 = 9^2$
81 is the sum of the first 9 odd numbers. $81 = 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17$
A thallium (Tl) atom has 81 protons.

82 (eighty two)

82 is a natural number.
82 is the successor of 81.
82 is the predecessor of 83.
82 is an even number.
82 is a composite number.
Prime factorization: $82 = 2 \times 41$
Factors of 82: 1, 2, 41, 82
Proper factors of 82: 1, 2, 41
Sum of factors of 82: 126
Sum of proper factors of 82: 44
82 is a deficient number.
A lead (Pb) atom has 82 protons.

83 (eighty three)

83 is a natural number.
83 is the successor of 82.
83 is the predecessor of 84.
83 is an odd number.
83 is a prime number.
Factors of 83: 1, 83
Proper factor of 83: 1
Sum of factors of 83 = 84
Sum of proper factors of 83 = 1
83 is a deficient number.
A bismuth (Bi) atom has 83 protons.

84 (eighty four)

84 is a natural number.
84 is the successor of 83.
84 is the predecessor of 85.
84 is an even number.
84 is a composite number.
Prime factorization: $84 = 2 \times 2 \times 3 \times 7$
Factors of 84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84
Proper factors of 84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42
Sum of factors of 84 = 224
Sum of proper factors of 84 = 140
84 is an abundant number.  
A polonium (Po) atom has 84 protons.

**85 (eighty five)**  
85 is a natural number.  
85 is the successor of 84.  
85 is the predecessor of 86.  
85 is an odd number.  
85 is a composite number.  
Prime factorization: $85 = 5 \times 17$  
Factors of 85: 1, 5, 17, 85  
Proper factors of 85: 1, 5, 17  
Sum of factors of 85 = 108  
Sum of proper factors of 85 = 23  
85 is a deficient number.  
An astatine (At) atom has 85 protons.

**86 (eighty six)**  
86 is a natural number.  
86 is the successor of 85.  
86 is the predecessor of 87.  
86 is an even number.  
86 is a composite number.  
Prime factorization: $86 = 2 \times 43$  
Factors of 86: 1, 2, 43, 86  
Proper factors of 86: 1, 2, 43  
Sum of factors of 86 = 132  
Sum of proper factors of 86 = 46  
86 is a deficient number.  
A radon (Rn) atom has 86 protons.

**87 (eighty seven)**  
87 is a natural number.  
87 is the successor of 86.  
87 is the predecessor of 88.  
87 is an odd number.  
87 is a composite number.  
Prime factorization: $87 = 3 \times 29$  
Factors of 87: 1, 3, 29, 87  
Proper factors of 87: 1, 3, 29  
Sum of factors of 87 = 120  
Sum of proper factors of 87 = 33  
87 is a deficient number.  
A francium (Fr) atom has 87 protons.
88 (eighty eight)
88 is a natural number.
88 is the successor of 87.
88 is the predecessor of 89.
88 is an even number.
88 is a composite number.
Prime factorization: $88 = 2 \times 2 \times 2 \times 11$
Factors of 88: 1, 2, 4, 8, 11, 22, 44, 88
Proper factors of 88: 1, 2, 4, 8, 11, 22, 44
Sum of factors of 88 = 180
Sum of proper factors of 88 = 92
88 is an abundant number.
88 is a palindromic number.
A radium (Ra) atom has 88 protons.

89 (eighty nine)
89 is a natural number.
89 is the successor of 88.
89 is the predecessor of 90.
89 is an odd number.
89 is a prime number.
Factors of 89: 1, 89
Proper factor of 89: 1
Sum of factors of 89 = 90
Sum of proper factors of 89 = 1
89 is a deficient number.
89 is a Fibonacci number.
An actinium (Ac) atom has 89 protons.

90 (ninety)
90 is a natural number.
90 is the successor of 89.
90 is the predecessor of 91.
90 is an even number.
90 is a composite number.
Prime factorization: $90 = 2 \times 3 \times 3 \times 5$
Factors of 90: 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90
Proper factors of 90: 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45
Sum of factors of 90 = 234
Sum of proper factors of 90 = 144
90 is an abundant number.
90 degrees is the measure of a right triangle.
A thorium (Th) atom has 90 protons.

91 (ninety one)
91 is a natural number.
91 is the successor of 90.
91 is the predecessor of 92.
91 is an odd number.
91 is a composite number
Prime factorization: $91 = 7 \times 13$
Factors of 91: 1, 7, 13, 91
Proper factors of 91: 1, 7, 13
Sum of factors of 91 = 112
Sum of proper factors of 91 = 21
91 is a deficient number.
91 is a triangular number. $91 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13$
91 is the sum of the first 6 square numbers. $91 = 1 + 4 + 9 + 16 + 25 + 36$
A protactinium (Pa) atom has 91 protons.

92 (ninety two)
92 is a natural number.
92 is the successor of 91.
92 is the predecessor of 93.
92 is an even number.
92 is a composite number.
Prime factorization: $92 = 2 \times 2 \times 23$
Factors of 92: 1, 2, 4, 23, 46, 92
Proper factors of 92: 1, 2, 4, 23, 46
Sum of factors of 92 = 168
Sum of proper factors of 92 = 76
92 is a deficient number.
A uranium (U) atom has 92 protons.

93 (ninety three)
93 is a natural number.
93 is the successor of 92.
93 is the predecessor of 94.
93 is an odd number.
93 is a composite number.
Prime factorization: $93 = 3 \times 31$
Factors of 93: 1, 3, 31, 93
Proper factors of 93: 1, 3, 31
Sum of factors of 93 = 128
Sum of proper factors of 93 = 35
93 is a deficient number.
A neptunium (Np) atom has 93 protons.

94 (ninety four)
94 is a natural number.
94 is the successor of 93.
94 is the predecessor of 95.
94 is an even number.
94 is a composite number.
Prime factorization: $94 = 2 \times 47$
Factors of 94: 1, 2, 47, 94
Proper factors of 94: 1, 2, 47
Sum of factors of 94 = 144
Sum of proper factors of 94 = 50
94 is a deficient number.
A plutonium (Pu) atom has 94 protons.

95 (ninety five)
95 is a natural number.
95 is the successor of 94.
95 is the predecessor of 96.
95 is an odd number.
95 is a composite number.
Prime factorization: $95 = 5 \times 19$
Factors of 95: 1, 5, 19, 95
Proper factors of 95: 1, 5, 19
Sum of factors of 95 = 120
Sum of proper factors of 95 = 25
95 is a deficient number.
An americium (Am) atom has 95 protons.

96 (ninety six)
96 is a natural number.
96 is the successor of 95.
96 is the predecessor of 97.
96 is an even number.
96 is a composite number.
Prime factorization: $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$
Factors of 96: 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96
Proper factors of 96: 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48
Sum of factors of 96 = 252
Sum of proper factors of 96 = 156
96 is an abundant number.
A curium (Cm) atom has 96 protons.

97 (ninety seven)
97 is a natural number.
97 is the successor of 96.
97 is the predecessor of 98.
97 is an odd number.
97 is a prime number.
97 is an emirp. (79 is a prime number.)
Factors of 97: 1, 97
Proper factor of 97: 1
Sum of factors of 97 = 98
Sum of proper factors of 97 = 1
97 is a deficient number.
A berkelium (Bk) atom has 97 protons.

98 (ninety eight)
98 is a natural number.
98 is the successor of 97.
98 is the predecessor of 99.
98 is an even number.
98 is a composite number.
Prime factorization: 98 = 2 x 7 x 7
Factors of 98: 1, 2, 7, 14, 49, 98
Proper factors of 98: 1, 2, 7, 14, 49
Sum of factors of 98 = 171
Sum of proper factors of 98 = 73
98 is a deficient number.
A californium (Cf) atom has 98 protons.

99 (ninety nine)
99 is a natural number.
99 is the successor of 98.
99 is the predecessor of 100.
99 is an odd number.
99 is a composite number.
Prime factorization: 99 = 3 x 3 x 11
Factors of 99: 1, 3, 9, 11, 33, 99
Proper factors of 99: 1, 3, 9, 11, 33
Sum of factors of 99 = 156
Sum of proper factors of 99 = 57
99 is a deficient number.
99 is a palindromic number.
An einsteinium (Es) atom has 99 protons.
Special Numbers in the Set of Natural Numbers 1 to 99 | TOC

For definitions of these special numbers, go down yonder to the Glossary.

The one and only 1
Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97
Palprime: 11
Emirps: 13, 17, 31, 37, 71, 73, 79, 97
Emirp pairs: 13 and 31, 17 and 71, 37 and 73, 79 and 97
Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81
Sums of consecutive odd numbers (see note 1): 1, 4, 9, 16, 25, 36, 49, 64, 81
Cubic numbers: 1, 8, 27, 64
Powers of 2: 1, 2, 4, 8, 16, 32, 64
Triangular numbers: 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91
Perfect numbers: 6, 28
Factorial numbers: 1, 2, 6, 24
Fibonacci numbers: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89
Sums of consecutive prime numbers (see note 2): 2, 5, 10, 17, 28, 41, 58, 77
Palindromic numbers: 11, 22, 33, 44, 55, 66, 77, 88, 99

Note 1. Example: 16 = 1 + 3 + 5 + 7
Note 2. Example: 28 = 2 + 3 + 5 + 7 + 11
Glossary | TOC

**abundant number** 1: a natural number \( n \) for which the sum of the factors of \( n \) is greater than \( 2n \). 2: a natural number \( n \) for which the sum of the proper factors of \( n \) is greater than \( n \).

**composite number** 1: a natural number greater than 1 that has factors other than 1 and the number itself. 2: a natural number that has three or more *different* factors.

**cubic number**: a number that can be written as the cube of a natural number. Cubic numbers are 1, 8, 27, 64, and so on. \( 1 = 1^3 \), \( 8 = 2^3 \), \( 27 = 3^3 \), \( 64 = 4^3 \), and so on.

**deficient number** 1: a natural number \( n \) for which the sum of the factors of \( n \) is less than \( 2n \). 2: a natural number \( n \) for which the sum of the proper factors of \( n \) is less than \( n \).

**emirp** 1: a prime number that is the reverse of a different prime number. 2: a prime number obtained by writing the digits of a different prime number in reverse order (right to left instead of left to right). Examples: 13 and 31, 37 and 73.

**factorial number**: If \( n \) is a natural number, then *\( n \) factorial*, written \( n! \), is the product of the natural numbers from 1 to \( n \). \( 1! = 1 \), \( 2! = 1 \times 2 = 2 \), \( 3! = 1 \times 2 \times 3 = 6 \), \( 4! = 1 \times 2 \times 3 \times 4 = 24 \).

**factor**: If you multiply two or more natural numbers, the product is a natural number. The numbers you multiplied to obtain the product are factors of the product. Example: \( 2 \times 3 = 6 \), so 2 and 3 are factors of 6. Example: \( 2 \times 3 \times 5 = 30 \), so 2, 3, and 5 are factors of 30. If \( a \times b = c \), then \( a \) and \( b \) are factors of \( c \).

**Fibonacci number**: the numbers 1, 1, 2, 3, 5, 8, 13, and so on. After the second number (1), each number is the sum of the preceding two numbers.

**palprime**: a prime number that when reversed (read right to left instead of left to right) is the same prime number. Example: 11.

**perfect number** 1: a natural number \( n \) for which the sum of the factors of \( n \) is equal to \( 2n \). 2: a natural number \( n \) for which the sum of the proper factors of \( n \) is equal to \( n \).

**predecessor**: Every natural number except 1 has a predecessor that is one less than the natural number. If \( n \) is a natural number, then its predecessor is \( n - 1 \). Examples: 1 is the predecessor of 2, 2 is the predecessor of 3, 3 is the predecessor of 4, … , 98 is the predecessor of 99.

**prime number** 1: a natural number that has exactly two different factors. 2: a natural number greater than 1 whose only factors are 1 and the number itself.

**proper factor**: a factor of a natural number other than the number itself. A proper factor of a number is a factor that is less than the number.
**natural number:** the numbers 1, 2, 3, 4, 5, and so on forever. They keep going and going and going, never ending. Natural numbers are also called counting numbers and positive integers.

**square number:** a number that can be written as the square of a natural number. Square numbers are 1, 4, 9, 16, 25, and so on. $1 = 1^2$, $4 = 2^2$, $9 = 3^2$, $16 = 4^2$, and so on.

**successor:** Every natural number has a successor that is one more than the natural number. If $n$ is a natural number, then its successor is $n + 1$. Examples: 2 is the successor of 1, 3 is the successor of 2, 4 is the successor of 3, …, 99 is the successor of 98.

**triangular number:** the numbers 1, 3, 6, 10, 15, and so on. Triangular numbers can be represented by triangles having 1 dot, 3 dots, 6 dots, 10 dots, 15 dots, and so on. The first triangular number is 1. A triangular number greater than 1 is the sum of consecutive natural numbers beginning with 1. Examples: $3 = 1 + 2$, $6 = 1 + 2 + 3$, $10 = 1 + 2 + 3 + 4$.

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