Important Concepts and Formulas - Numbers

1. Number Sets

a. Counting Numbers (Natural numbers)

1, 2, 3 ...

b. Whole Numbers

0, 1, 2, 3 ...

c. Integers

-3, -2, -1, 0, 1, 2, 3 ...

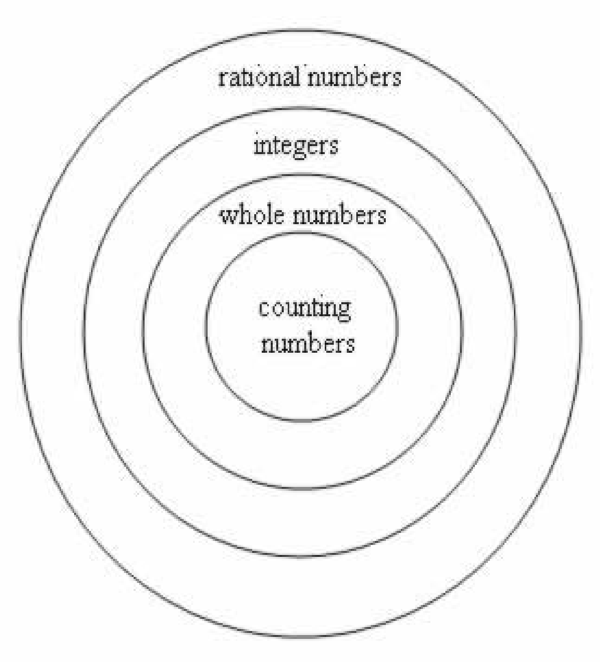
d. Rational Numbers

Rational numbers can be expressed as ab

where a and b are integers and b≠0
Examples: 112, 42, 0, −811

etc.

All integers, fractions and terminating or recurring decimals are rational numbers.



e. Irrational Numbers

Any number which is not a rational number is an irrational number. In other words, an irrational number is a number which cannot be expressed as ab

where a and b are integers.

For instance, numbers whose decimals do not terminate and do not repeat cannot be written as a fraction and hence they are irrational numbers.

Example : π

, $\sqrt{2}$, $(3+\sqrt{5})$, $4\sqrt{3}$ (meaning $4\times\sqrt{3}$), $3\sqrt{6}$

etc

Please note that the value of π

= 3.14159 26535 89793 23846 26433 83279 50288 41971 69399 37510 58209 74944 59230 78164 06286 20899 86280 34825 34211 70679...

We cannot π

as a simple fraction (The fraction 22/7 = 3.14.... is just an approximate value of π

)

f. Real Numbers

Real numbers include counting numbers, whole numbers, integers, rational numbers and irrational numbers.

g. Surds

Let a

be any rational number and n be any positive integer such that $n\sqrt{a}$ is irrational. Then $n\sqrt{a}$

is a surd.

Example : $\sqrt{3}$

, $6\sqrt{10}$, $4\sqrt{3}$

etc

Please note that numbers like $\sqrt{9}$

, $3\sqrt{27}$

etc are not surds because they are not irrational numbers

Every surd is an irrational number. But every irrational number is not a surd. (eg : π

, e

etc are not surds though they are irrational numbers.)

2. Addition, Subtraction and Multiplication Rules for Even and Odd Numbers

Addition Rules for Even and Odd Numbers
1. Sum of any number of even numbers is always even
2. Sum of even number of odd numbers is always even
3. Sum of odd number of odd numbers is always odd

Subtraction Rules for Even and Odd Numbers
1. Difference of two even numbers is always even

2. Difference of two odd numbers is always even

Multiplication Rules for Even and Odd Numbers

1. Product of even numbers is always even
2. Product of odd numbers is always odd
3. If there is at least one even number multiplied by any number of odd numbers, the product is always even

3. DivisibilityDivisible By

One whole number is divisible by another if the remainder we get after the division is zero.

Examples

36 is divisible by 4 because 36 ÷ 4 = 9 with a remainder of 0.

36 is divisible by 6 because 36 ÷ 6 = 6 with a remainder of 0.

36 is not divisible by 5 because 36 ÷ 5 = 7 with a remainder of 1.

Divisibility Rules

By using divisibility rules, we can easily find whether a given number is divisible by another number without actually performing the division. This saves time especially when working with numbers. Divisibility rules of numbers 1 to 20 are provided below.

Divisibility Rule
Description
Examples
Divisibility by 2
A number is divisible by 2 if the last digit is even. i.e., if the last digit is 0 or 2 or 4 or 6 or 8
Example 1: Check if 64 is divisible by 2.
The last digit of 64 is 4 (even).
Hence 64 is divisible by 2

Example 2: Check if 69 is divisible by 2.
The last digit of 69 is 9 (not even).
Hence 69 is not divisible by 2
Divisibility by 3

A number is divisible by 3 if the sum of the digits is divisible by 3

Please note that we can apply this rule to the answer again and again if needed.

Example 1: Check if 387 is divisible by 3.
3 + 8 + 7 = 18.
18 is divisible by 3.
Hence 387 is divisible by 3

Example 2: Check if 421 is divisible by 3.
4 + 2 + 1 = 7.

7 is not divisible by 3.
Hence 421 is not divisible by 3
Divisibility by 4
A number is divisible by 4 if the number formed by the last two digits is divisible by 4.
Example 1: Check if 416 is divisible by 4.
Number formed by the last two digits = 16.
16 is divisible by 4.
Hence 416 is divisible by 4

Example 2: Check if 481 is divisible by 4.
Number formed by the last two digits = 81.
81 is not divisible by 4.
Hence 481 is not divisible by 4
Divisibility by 5
A number is divisible by 5 if the last digit is either 0 or 5.
Example 1: Check if 305 is divisible by 5.
Last digit is 5.
Hence 305 is divisible by 5.

Example 2: Check if 420 is divisible by 5.
Last digit is 0.
Hence 420 is divisible by 5.

Example 3: Check if 312 is divisible by 5.
Last digit is 2.
Hence 312 is not divisible by 5.
Divisibility by 6
A number is divisible by 6 if it is divisible by both 2 and 3.
Example 1: Check if 546 is divisible by 6.
546 is divisible by 2.
546 is also divisible by 3. *(Refer divisibility rule of 2 and 3)*
Hence 546 is divisible by 6

Example 2: Check if 633 is divisible by 6.
633 is not divisible by 2 though it is divisible by 3.
Hence 633 is not divisible by 6

Example 3: Check if 635 is divisible by 6.
635 is not divisible by 2.
635 is also not divisible by 3.
Hence 635 is not divisible by 6

Example 4: Check if 428 is divisible by 6.

428 is divisible by 2 but it is not divisible by 3.
Hence 428 is not divisible by 6

Divisibility by 7

To find out if a number is divisible by 7, double the last digit and subtract it from the number formed by the remaining digits.

Repeat this process until we get at a smaller number whose divisibility we know.

If this smaller number is 0 or divisible by 7, the original number is also divisible by 7.

Example 1: Check if 349 is divisible by 7.

Given number = 349
34 - (9 × 2) = 34 - 18 = 16
16 is not divisible by 7.
Hence 349 is not divisible by 7

Example 2: Check if 364 is divisible by 7.

Given number = 364
36 - (4 × 2) = 36 - 8 = 28
28 is divisible by 7.
Hence 364 is also divisible by 7

Example 3: Check if 3374 is divisible by 7.

Given number = 3374
337 - (4 × 2) = 337 - 8 = 329
32 - (9 × 2) = 32 - 18 = 14
14 is divisible by 7.
Hence 329 is also divisible by 7.
Hence 3374 is also divisible by 7.

Divisibility by 8

A number is divisible by 8 if the number formed by the last three digits is divisible by 8.

Example 1: Check if 7624 is divisible by 8.

The number formed by the last three digits of 7624 = 624.
624 is divisible by 8.
Hence 7624 is also divisible by 8.

Example 2: Check if 129437464 is divisible by 8.

The number formed by the last three digits of 129437464 = 464.
464 is divisible by 8.
Hence 129437464 is also divisible by 8.

Example 3: Check if 737460 is divisible by 8.

The number formed by the last three digits of 737460 = 460.
460 is not divisible by 8.
Hence 737460 is also not divisible by 8.

Divisibility by 9

A number is divisible by 9 if the sum of its digits is divisible by 9.

(Please note that we can apply this rule to the answer again and again if we need)

Example 1: Check if 367821 is divisible by 9

3 + 6 + 7 + 8 + 2 + 1 = 27

27 is divisible by 9.

Hence 367821 is also divisible by 9.

Example 2: Check if 47128 is divisible by 9

4 + 7 + 1 + 2 + 8 = 22

22 is not divisible by 9.

Hence 47128 is not divisible by 9.

Example 3: Check if 4975291989 is divisible by 9

4 + 9+ 7 + 5 + 2 + 9 + 1 + 9 + 8 + 9= 63

Since 63 is big, we can use the same method to see if it is divisible by 9.

6 + 3 = 9

9 is divisible by 9.

Hence 63 is also divisible by 9.

Hence 4975291989 is also divisible by 9.

Divisibility by 10

A number is divisible by 10 if the last digit is 0.

Example 1:Check if 2570 is divisible by 10.

Last digit is 0.

Hence 2570 is divisible by 10.

Example 2: Check if 5462 is divisible by 10.

Last digit is not 0.

Hence 5462 is not divisible by 10

Divisibility by 11

To find out if a number is divisible by 11, find the sum of the odd numbered digits and the sum of the even numbered digits.

Now subtract the lower number obtained from the bigger number obtained.

If the number we get is 0 or divisible by 11, the original number is also divisible by 11.

Example 1: Check if 85136 is divisible by 11.

8 + 1 + 6 = 15

5 + 3 = 8

15 - 8 = 7

7 is not divisible by 11.

Hence 85136 is not divisible by 11.

Example 2: Check if 2737152 is divisible by 11.
2 + 3 + 1 + 2 = 8
7 + 7 + 5 = 19
19 - 8 = 11
11 is divisible by 11.
Hence 2737152 is also divisible by 11.

Example 3: Check if 957 is divisible by 11.
9 + 7 = 16
5 = 5
16 - 5 = 11
11 is divisible by 11.
Hence 957 is also divisible by 11.

Example 4: Check if 9548 is divisible by 11.
9 + 4 = 13
5 + 8 = 13
13 - 13 = 0
We got the difference as 0.
Hence 9548 is divisible by 11.

Divisibility by 12

A number is divisible by 12 if the number is divisible by both 3 and 4

Example 1: Check if 720 is divisible by 12.
720 is divisible by 3.
720 is also divisible by 4. *(Refer divisibility rules of 3 and 4)*
Hence 720 is divisible by 12

Example 2: Check if 916 is divisible by 12.
916 is not divisible by 3 , though 916 is divisible by 4.
Hence 916 is not divisible by 12

Example 3: Check if 921 is divisible by 12.
921 is divisible by 3.
But 921 is not divisible by 4.
Hence 921 is not divisible by 12

Example 4: Check if 827 is divisible by 12.
827 is not divisible by 3. 827 is also not divisible by 4.
Hence 827 is not divisible by 12

Divisibility by 13

To find out if a number is divisible by 13, multiply the last digit by 4 and add it to the number formed by the remaining digits.

Repeat this process until we get at a smaller number whose divisibility we know.

If this smaller number is divisible by 13, the original number is also divisible by 13.

Example 1:Check if 349 is divisible by 13.

Given number = 349

34 + (9 × 4) = 34 + 36 = 70

70 is not divisible by 13.

Hence 349 is not divisible by 349

Example 2: Check if 572 is divisible by 13.

Given number = 572

57 + (2 × 4) = 57 + 8 = 65

65 is divisible by 13.

Hence 572 is also divisible by 13

Example 3: Check if 68172 is divisible by 13.

Given number = 68172

6817 + (2 × 4) = 6817 + 8 = 6825

682 + (5 × 4) = 682 + 20 = 702

70 + (2 × 4) = 70 + 8 = 78

78 is divisible by 13.

Hence 68172 is also divisible by 13.

Example 4: Check if 651 is divisible by 13.

Given number = 651

65 + (1 × 4) = 65 + 4 = 69

69 is not divisible by 13.

Hence 651 is not divisible by 13

Divisibility by 14

A number is divisible by 14 if it is divisible by both 2 and 7.

Example 1:Check if 238 is divisible by 14

238 is divisible by 2.

238 is also divisible by 7. *(Refer divisibility rule of 2 and 7)*

Hence 238 is divisible by 14

Example 2: Check if 336 is divisible by 14

336 is divisible by 2.

336 is also divisible by 7.

Hence 336 is divisible by 14

Example 3: Check if 342 is divisible by 14.

342 is divisible by 2.

But 342 is not divisible by 7.

Hence 342 is not divisible by 12

Example 4: Check if 175 is divisible by 14.
175 is not divisible by 2, though it is divisible by 7.
Hence 175 is not divisible by 14

Example 5: Check if 337 is divisible by 14.
337 is neither divisible by 2 nor by 7
Hence 337 is not divisible by 14

Divisibility by 15

A number is divisible by 15 if it is divisible by both 3 and 5.

Example 1: Check if 435 is divisible by 15
435 is divisible by 3.
435 is also divisible by 5. *(Refer divisibility rule of 3 and 5)*
Hence 435 is divisible by 15

Example 2: Check if 555 is divisible by 15
555 is divisible by 3.
555 is also divisible by 5.
Hence 555 is also divisible by 15

Example 3: Check if 483 is divisible by 15.
483 is divisible by 3
But 483 is not divisible by 5.
Hence 483 is not divisible by 15

Example 4: Check if 485 is divisible by 15.
485 is not divisible by 3, though it is divisible by 5.
Hence 485 is not divisible by 15

Example 5: Check if 487 is divisible by 15.
487 is not divisible by 3.
It is also not divisible by 5
Hence 487 is not divisible by 15

Divisibility by 16

A number is divisible by 16 if the number formed by the last four digits is divisible by 16.

Example 1: Check if 5696512 is divisible by 16.
The number formed by the last four digits of 5696512 = 6512
6512 is divisible by 16.
Hence 5696512 is also divisible by 16.

Example 2: Check if 3326976 is divisible by 16.
The number formed by the last four digits of 3326976 = 6976
6976 is divisible by 16.
Hence 3326976 is also divisible by 16.

Example 3: Check if 732374360 is divisible by 16.
The number formed by the last three digits of 732374360 = 4360
4360 is not divisible by 16.
Hence 732374360 is also not divisible by 16.

Divisibility by 17

To find out if a number is divisible by 17, multiply the last digit by 5 and subtract it from the number formed by the remaining digits.

Repeat this process until you arrive at a smaller number whose divisibility you know.

If this smaller number is divisible by 17, the original number is also divisible by 17.

Example 1: Check if 500327 is divisible by 17.
Given Number = 500327
50032 - (7 × 5)= 50032 - 35 = 49997
4999 - (7 × 5) = 4999 - 35 = 4964
496 - (4 × 5) = 496 - 20 = 476
47 - (6 × 5) = 47 - 30 = 17
17 is divisible by 17.
Hence 500327 is also divisible by 17

Example 2: Check if 521461 is divisible by 17.
Given Number = 521461
52146 - (1 × 5)= 52146 -5 = 52141
5214 - (1 × 5) = 5214 - 5 = 5209
520 - (9 × 5) = 520 - 45 = 475
47 - (5 × 5) = 47 - 25 = 22
22 is not divisible by 17.
Hence 521461 is not divisible by 17

Divisibility by 18

A number is divisible by 18 if it is divisible by both 2 and 9.
Example 1: Check if 31104 is divisible by 18.
31104 is divisible by 2.
31104 is also divisible by 9. *(Refer divisibility rule of 2 and 9)*
Hence 31104 is divisible by 18

Example 2: Check if 1170 is divisible by 18.
1170 is divisible by 2.
1170 is also divisible by 9.
Hence 1170 is divisible by 18

Example 3: Check if 1182 is divisible by 18.
1182 is divisible by 2
But 1182 is not divisible by 9.
Hence 1182 is not divisible by 18

Example 4: Check if 1287 is divisible by 18.
1287 is not divisible by 2 though it is divisible by 9.
Hence 1287 is not divisible by 18
Divisibility by 19

To find out if a number is divisible by 19, multiply the last digit by 2 and add it to the number formed by the remaining digits.

Repeat this process until you arrive at a smaller number whose divisibility you know.

If this smaller number is divisible by 19, the original number is also divisible by 19.

Example 1: Check if 74689 is divisible by 19.
Given Number = 74689
$7468 + (9 \times 2) = 7468 + 18 = 7486$
$748 + (6 \times 2) = 748 + 12 = 760$
$76 + (0 \times 2) = 76 + 0 = 76$
76 is divisible by 19.
Hence 74689 is also divisible by 19

Example 2: Check if 71234 is divisible by 19.
Given Number = 71234
$7123 + (4 \times 2) = 7123 + 8 = 7131$
$713 + (1 \times 2) = 713 + 2 = 715$
$71 + (5 \times 2) = 71 + 10 = 81$
81 is not divisible by 19.
Hence 71234 is not divisible by 19
Divisibility by 20
A number is divisible by 20 if it is divisible by 10 and the tens digit is even.

(There is one more rule to see if a number is divisible by 20 which is given below.
A number is divisible by 20 if the number is divisible by both 4 and 5)
Example 1: Check if 720 is divisible by 20
720 is divisible by 10. *(Refer divisibility rule of 10)*.
The tens digit = 2 = even digit.
Hence 720 is also divisible by 20

Example 2: Check if 1340 is divisible by 20
1340 is divisible by 10.
The tens digit = 4 = even digit.
Hence 1340 is divisible by 20

Example 3: Check if 1350 is divisible by 20
1350 is divisible by 10.
But the tens digit = 5 = not an even digit.

Hence 1350 is not divisible by 20

Example 4: Check if 1325 is divisible by 20

1325 is not divisible by 10 though the tens digit = 2 = even digit.

Hence 1325 is not divisible by 20

4. What are Factors of a Number and how to find it out?

Factors of a number

If one number is divisible by a second number, the second number is a factor of the first number.

The lowest factor of any positive number = 1

The highest factor of any positive number = the number itself.

Example

The factors of 36 are 1, 2, 3, 4, 6, 9 12, 18, 36 because each of these numbers divides 36 with a remainder of 0

How to find out factors of a number

Write down 1 and the number itself (lowest and highest factors).

Check if the given number is divisible by 2 (Reference: Divisibility by 2 rule)

If the number is divisible by 2, write down 2 as the second lowest factor and divide the given number by 2 to get the second highest factor

Check for divisibility by 3, 4,5, and so on. till the beginning of the list reaches the end

Example 1: Find out the factors of 72

Write down 1 and the number itself (72) as lowest and highest factors.

1 . . . 72

72 is divisible by 2 (Reference: Divisibility by 2 Rule).

72 ÷ 2 = 36. Hence 2^{nd} lowest factor = 2 and 2^{nd} highest factor = 36. So we can write as

1, 2 . . . 36, 72

72 is divisible by 3 (Reference: Divisibility by 3 Rule).

72 ÷ 3 = 24 . Hence 3^{rd} lowest factor = 3 and 3^{rd} highest factor = 24. So we can write as

1, 2, 3, . . . 24, 36, 72

72 is divisible by 4 (Reference: Divisibility by 4 Rule).

72 ÷ 4 = 18. Hence 4^{th} lowest factor = 4 and 4^{th} highest factor = 18. So we can write as

1, 2, 3, 4, . . . 18, 24, 36, 72

72 is not divisible by 5 (Reference: Divisibility by 5 Rule)

72 is divisible by 6 (Reference: Divisibility by 6 Rule).

72 ÷ 6 = 12. Hence 5^{th} lowest factor = 6 and 5^{th} highest factor = 12. So we can write as

1, 2, 3, 4, 6, . . . 12, 18, 24, 36, 72

72 is not divisible by 7 (Reference: Divisibility by 7 Rule)

72 is divisible by 8 (Reference: Divisibility by 8 Rule).
72 ÷ 8 = 9. Hence 6th lowest factor = 8 and 6th highest factor = 9.

Now our list is complete and the factors of 72 are

1, 2, 3, 4, 6, 8, 9 12, 18, 24, 36, 72

Example 2: Find out the factors of 22

Write down 1 and the number itself (22) as lowest and highest factors

1 . . . 22

22 is divisible by 2 (Reference: Divisibility by 2 Rule).
22 ÷ 2 = 11. Hence 2nd lowest factor = 2 and 2nd highest factor = 11. So we can write as

1, 2 . . . 11, 22

22 is not divisible by 3 (Reference: Divisibility by 3 Rule).

22 is not divisible by 4 (Reference: Divisibility by 4 Rule).

22 is not divisible by 5 (Reference: Divisibility by 5 Rule).

22 is not divisible by 6 (Reference: Divisibility by 6 Rule).

22 is not divisible by 7 (Reference: Divisibility by 7 Rule).

22 is not divisible by 8 (Reference: Divisibility by 8 Rule).

22 is not divisible by 9 (Reference: Divisibility by 9 Rule).

22 is not divisible by 10 (Reference: Divisibility by 10 Rule).

Now our list is complete and the factors of 22 are

1, 2, 11, 22

Important Properties of Factors

If a number is divisible by another number, then it is also divisible by all the factors of that number.

Example : 108 is divisible by 36 because 106 ÷ 38 = 3 with remainder of 0.

The factors of 36 are 1, 2, 3, 4, 6, 9 12, 18, 36 because each of these numbers divides 36 with a remainder of 0.

Hence, 108 is also divisible by each of the numbers 1, 2, 3, 4, 6, 9, 12, 18, 36.

5. What are Prime Numbers and Composite Numbers?

Prime Numbers

A prime number is a positive integer that is divisible by itself and 1 only. Prime numbers will have exactly two integer factors.

Examples: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, etc.

Please note the following facts

Zero is not a prime number because zero is divisible by more than two numbers. Zero can be divided by 1, 2, 3 etc.
($0 \div 1 = 0$, $0 \div 2 = 0$ ...)

One is not a prime number because it does not have two factors. It is divisible by only 1

Composite Numbers

Composite numbers are numbers that have more than two factors. A composite number is divisible by at least one number other than 1 and itself.

Examples: 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, etc.

Please note that zero and 1 are neither prime numbers nor composite numbers.

Every whole number is either prime or composite, with two exceptions 0 and 1 which are neither prime nor composite

6. What are Prime Factorization and Prime factors ?

Prime factor

The factors which are prime numbers are called prime factors

Prime factorization

Prime factorization of a number is the expression of the number as the product of its prime factors

Example 1:
Prime factorization of 280 can be written as $280 = 2 \times 2 \times 2 \times 5 \times 7 = 2^3 \times 5 \times 7$ and the prime factors of 280 are 2, 5 and 7

Example 2:
Prime factorization of 72 can be written as $72 = 2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$ and the prime factors of 72 are 2 and 3

How to find out prime factorization and prime factors of a number

Repeated Division Method : In order to find out the prime factorization of a number, divide the number repeatedly by the smallest prime number possible(2,3,5,7,11, ...) until the quotient is 1.

Example 1: Find out prime factorization of 280

2	280
2	140
2	70
5	35
7	7

1

Hence, prime factorization of 280 can be written as

$280 = 2 \times 2 \times 2 \times 5 \times 7 = 2^3 \times 5 \times 7$

and the prime factors of 280 are 2, 5 and 7

Example 2: Find out prime factorization of 72

2	72
2	36
2	18
3	9
3	3
	1

Hence, prime factorization of 72 can be written as $72 = 2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$ and the prime factors of 72 are 2 and 3

Important Properties

Every whole number greater than 1 can be uniquely expressed as the product of its prime factors. For example, $700 = 2^2 \times 5^2 \times 7$

7. Multiples

Multiples of a whole number are the products of that number with 1, 2, 3, 4, and so on

Example : Multiples of 3 are 3, 6, 9, 12, 15, ...

If a number x divides another number y exactly with a remainder of 0, we can say that x is a factor of y and y is a multiple of x

For instance, 4 divides 36 exactly with a remainder of 0. Hence 4 is a factor of 36 and 36 is a multiple of 4

8. How to compare fractions?

Type 1: Fractions with same denominators.

Compare 35

and 15

These fractions have same denominator. So just compare the numerators. Bigger the numerator, bigger the number.

3 > 1. Hence 35>15

Example 2: Compare 27

and 37 and 87

These fractions have same denominator. So just compare the numerators. Bigger the numerator, bigger the number.

8 > 3 > 2. Hence 87>37>27

Type 2 : Fractions with same numerators.

Example 1: Compare 35

and 38

These fractions have same numerator. So just compare the denominators. Bigger the denominator, smaller the number.

8 > 5. Hence 38<35

Example 2: Compare 78

and 72 and 75

These fractions have same numerator. So just compare the denominators. Bigger the denominator, smaller the number.

8 > 5 > 2. Hence 78<75<72

Type 3 : Fractions with different numerators and denominators.

Example 1: Compare 35

and 47

To compare such fractions, find out LCM of the denominators. Here, LCM(5, 7) = 35

Now , convert each of the given fractions into an equivalent fraction with 35 (LCM) as the denominator.

The denominator of 35

is 5.   5 needs to be multiplied with 7 to get 35. Hence,

35=3×75×7=2135

The denominator of 47

is 7.   7 needs to be multiplied with 5 to get 35. Hence,

47=4×57×5=2035

2135>2035

Hence, 35>47

Or

Convert the fractions to decimals

35=.6

47=.5...

(Need not find out the complete decimal value; just find out up to what is required for comparison. In this case the first digit itself is sufficient to do the comparison)

.6 > .5...

Hence, 35>47

9. Co-prime Numbers or Relatively Prime Numbers

Two numbers are said to be co-prime (also spelled coprime) or relatively prime if they do not have a common factor other than 1. i.e., if their HCF is 1.

Example 1: 3, 5 are co-prime numbers (Because HCF of 3 and 5 = 1)

Example 2: 14, 15 are co-prime numbers (Because HCF of 14 and 15 = 1)

A set of numbers is said to be pairwise co-prime (or pairwise relatively prime) if every two distinct numbers in the set are co-prime

Example 1: The numbers 10, 7, 33, 13 are pairwise co-prime, because HCF of any pair of the numbers in this is 1.
HCF (10, 7) = HCF (10, 33) = HCF (10, 13) = HCF (7, 33) = HCF (7, 13) = HCF (33, 13) = 1.

Example 2 : The numbers 10, 7, 33, 14 are not pairwise co-prime because HCF(10, 14) = 2 ≠ 1 and HCF(7, 14) = 7 ≠ 1.

If a number is divisible by two co-prime numbers, then the number is divisible by their product also.

Example
3, 5 are co-prime numbers (Because HCF of 3 and 5 = 1)

14325 is divisible by 3 and 5.
3 × 5 = 15
Hence 14325 is divisible by 15 also.

If a number is divisible by more than two pairwise co-prime numbers, then the number is divisible by their product also.

Example:
The numbers 3, 4, 5 are pairwise co-prime because HCF of any pair of numbers in this is 1.

1440 is divisible by 3, 4 and 5.
3 × 4 × 5 = 60. Hence 1440 is also divisible by 60.