• Number System Example:

- o Real Number: (..... -2.1, -1.5, -1, -.7, **0**, .2, 1, 1.3, 2.6,)
- o Integer: (..... -2, -1, **0,** 1, 2,)
- o Even: (..... -4, -2, **0,** 2, 4,)
- o Odd: (..... -3, -1, 1, 3, 5,)
- o Positive: All real numbers greater than 0 (not including 0)
- o Negative: All real numbers less than 0 (not including 0)

• Determining Even-Odd:

০ যোগ-বিয়োগের ক্ষেত্রে বিজোড সংখ্যক odd number থাকলে ফলাফল odd হবে। বাকি সব ক্ষেত্রে even হবে।

Example:

- = 23 + 46 97 = even
- 93 42 + 22 = odd
- 97 + 45 = even
- 33 + 62 = odd
- ০ গুনের ক্ষেত্রে minimum একটি even number থাকলে ফলাফল even হবে। বাকি সব ক্ষেত্রে odd হবে।

Example:

- 23 X 22 = even
- 47 X 3 = odd
- $(23)^2 = \text{odd}$
- 93 X 23 X 2 = even
- 44 X 22 = even
- ০ ভাগের ক্ষেত্রেঃ

$$\frac{\text{Odd}}{\text{Odd}} = \text{Odd}$$

$$\frac{\text{Even}}{\text{Even}} = \text{Even or Odd}$$

$$\frac{Even}{Odd} = Even$$

$$\frac{Odd}{Even} = Fraction$$

• No. of factors:

If,
$$n = a^p X b^q X c^r$$

Then, number of factors of
$$n = (p+1)(q+1)(r+1)$$

Example:
$$60 = 2 \times 2 \times 3 \times 5$$

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

So, the number of factors of
$$60 = (2+1)(1+1)(1+1)$$

$$= 3 \times 2 \times 2$$

Division with remainder:



Remainder

It can be written as:

Dividend = Divisor X Quotient + Remainder

If $\frac{x}{y}$ has quotient M and remainder R, then it can be written as:

$$x = yM + R$$

Additional formula for Division:

If,
$$x = 6p + 4 [4, 10, 16, 22,]$$

and,
$$x = 4q + 2 [2, 6, 10, 14,]$$

Then x can be written as,

$$x = 12r + 10;$$

where 12 is LCM of 6 and 4.