



### Creative Questions:

1.  $x^3 - 21x - 20$  and  $x^3 + 6x^2 + 11x + 6$ .
  - a) Is the first term divisible by  $(x + 5)$ .
  - b) Find a common factor of the two terms.
  - c) Resolve the two terms into factors with the help of Remainder theorem.
  
2.  $G(x) = x^3 - 7xy^2 - 6y^3$  is a polynomial. Here considers  $x$  as variable and  $y$  as constant.
  - a) Find the value of  $G(-y)$ .
  - b) Show that,  $(x + y)$  and  $(x - 3y)$  are two factors of  $G(x)$ .
  - c) Resolve  $G(x)$  into factors by using the remainder theorem.
  
3.  $f(x)$  is divisible by  $(ax + b)$  then remainder is  $f\left(-\frac{b}{a}\right)$ . This formula is known as remainder theorem if  $f(x) = x^2 + 9x - 36$ .
  - a) Express the remainder theorem in terms of algebraic equation.
  - b) Determine the quotient putting  $a = 1$  and  $b = -3$  in the equation obtained from 'a'.
  - c) If  $f(x)$  is divided by  $(2x + 11)$  then what will be the remainder?

### Basic Information:



- ❖ Muhammad Ibn Musa Al-Khwarizmi (780 – 850) was the Mathematician, Astrologer, Astronomer and Geographer of Iran.
- ❖ The word “Algebra” is originated from his book “Al Gabar Oa Al-Mokabila.
- ❖ It is the first book of Algebra where the solution of Linear and Quadratic equation is given.



- Greek Mathematician Diophantus (200 – 284) is known as father of Algebra.
- He is the first one to define fraction and approved finite number as solve of equation and co-efficient.