Examples:

1. What is the remainder if $a^4 + a^3 - 2a^2 + a + 1$ is divided by $a - 1$. (Ans: 2)

2. If $x + 1$ is a factor of the polynomial $2x^2 + kx$, then the value of k is: (Ans: 2)

3. Find the remainder when $x^3 - ax^2 + 6x - a$ is divisible by $x - a$. (Ans: 5a)

4. Find the remainder (without division) when $4x^3 - 3x^2 + 2x - 4$ is divisible by x + 2. (Ans: -52)

5. If 2 is a root of $kx^4 - 11x^3 + kx^2 + 13x + 2$. What is the value of k? (Ans: k = 3)

6. The expression $4x^2 - px + 7$ leaves a remainder of –2 when divided by x – 3. Find the value of p. (Ans: p = 15)