

1. For the polynomial $3x^4 - 10x^2 + 2x - 3$ the degree is _____
the leading coefficient is _____
and the constant is _____

2. Multiply:

$$(x^2 - 3x + 1)(x - 1)$$

3. Factor the sum of two cubes:

$$x^3 + 27$$

4. Factor the difference of two cubes:

$$x^3 - 1$$

5. Evaluate (quickly) the polynomial

$$5x^4 + 3x^3 + 4x^2 + x + 9 \text{ for } x = 10$$