

### Задача № 22.

Разложите многочлен  $f(x)$  на неприводимые множители над полями  $\mathbb{Q}$ ,  $\mathbb{R}$  и  $\mathbb{C}$ .

1.  $f(x) = x^4 - 4x^2 + 3;$

2.  $f(x) = x^4 - 6x^2 + 8;$

3.  $f(x) = x^4 - x^2 - 72;$

4.  $f(x) = x^4 + 2x^2 - 48;$

5.  $f(x) = x^4 - 7x^2 + 12;$

6.  $f(x) = x^4 + x^2 - 30;$

7.  $f(x) = x^4 + 7x^2 + 12$

8.  $f(x) = x^4 + 15x^2 + 56;$

9.  $f(x) = x^4 - 12x^2 + 27;$

10.  $f(x) = x^4 - 4x^2 - 45;$

11.  $f(x) = 3x^4 - x^3 + x^2 + x - 4;$

12.  $f(x) = x^4 - x^3 - x + 1;$

13.  $f(x) = x^4 - 2x^3 - 24x^2 + 50x - 25;$

14.  $f(x) = x^4 + 3x^2 + 2;$

15.  $f(x) = 4x^4 - 24x^3 + 29x^2 + 42x - 63$

16.  $f(x) = x^4 - 4x^3 + 8x^2 - 16x + 16;$

17.  $f(x) = 6x^4 + 5x^3 - 95x^2 - 80x - 15;$

18.  $f(x) = 6x^4 + 5x^3 - 74x^2 + 11x + 12;$

19.  $f(x) = 10x^4 + 21x^3 - 55x^2 - 72x + 36;$

20.  $f(x) = x^4 - 2x^3 + 2x^2 - 2x + 1;$

21.  $f(x) = x^5 - 5x^4 + 6x^3 + x^2 - 5x + 6;$

22.  $f(x) = x^4 - 6x^3 + 18x^2 - 54x + 81;$

23.  $f(x) = 3x^4 + 5x^3 - x^2 - 5x - 2;$

24.  $f(x) = x^4 - 12x^3 - 54x^2 - 108x + 81;$

25.  $f(x) = x^4 - 9x^3 + 30x^2 - 44x + 24;$

26.  $f(x) = x^5 - 2x^4 - 8x^3 + 16x^2 + 16x - 32;$

27.  $f(x) = x^5 + 5x^4 + 3x^3 - 13x^2 - 8x + 12;$

28.  $f(x) = 12x^4 - 5x^3 - 51x^2 + 20x - 12;$

29.  $f(x) = 6x^4 + 5x^3 - 12x^2 - 5x + 6;$

30.  $f(x) = 14x^4 - 37x^3 - 72x^2 - 17x + 4;$

31.  $f(x) = x^4 + 4x^3 - 2x^2 - 12x + 9;$

32.  $f(x) = x^4 - 2x^3 - 8x^2 + 13x - 9;$

33.  $f(x) = x^4 + 8x^3 + 8x - 1;$

34.  $f(x) = 8x^3 + 42x^2 + 37x - 12;$

35.  $f(x) = x^4 + 2x^3 + 3x^2 + 2x - 3;$

36.  $f(x) = 4x^3 - 12x^2 - 25x + 75.$