

Long Division with Polynomials (ALG.POL.06)

Divide using polynomial long division.

1. $(7x^3 + 23x^2 - 9x + 44) \div (x + 4)$ $7x^2 - 5x + 11$

2. $(5x^3 - 22x^2 + 23x - 8) \div (x - 3)$ $5x^2 - 7x + 2 - \frac{2}{x-3}$

3. $(24x^3 - 22x^2 + x + 2) \div (3x - 2)$ $8x^2 - 2x - 1$

4. $(x^4 - 6x^3 - 5x^2 + 33x - 18) \div (x - 6)$ $x^4 - 6x^3 - 5x^2 + 33x - 18$

5. $(2x^5 + 5x^4 - 6x^3 - 15x^2 + 10x + 29) \div (2x + 5)$ $x^4 - 3x^2 + 5 + \frac{4}{2x+5}$

6. $(x^7 - 7x^4 + 3x^3 + 10x - 6) \div (x^3 - 2)$ $x^4 - 5x + 3$

7. $(x^5 - 9x^3 - 2x^2 + 10x + 19) \div (x^2 - 8)$ $x^3 - x - 2 + \frac{2x+3}{x^2-8}$

8. $(x^8 - 3x^6 + 15x^4 - 15x^2 + 45) \div (x^4 + 5)$ $x^4 - 3x^2 + 10 - \frac{5}{x^4+5}$

9. $(33x^4 + 38x^3 - 9x^2 + 32x - 14) \div (3x^2 + 4x - 2)$ $11x^2 - 2x + 7$

10. $(15x^5 - 42x^4 + 49x^3 - 51x^2 + 28x - 16) \div (3x^2 - 3x + 2)$ $5x^3 - 9x^2 + 4x - 7 - \frac{x+2}{3x^2-3x+2}$

11. $(12x^8 + 28x^6 - 83x^4 - 51x^2 + 108) \div (2x^4 + 5x^2 - 9)$ $6x^4 - x^2 - 12$

12. $(8x^8 - 22x^7 - 16x^6 + 60x^5 + 36x^4 - 123x^3 - 23x^2 + 74x + 13) \div (4x^3 - 11x^2 + 8)$

$$2x^5 - 4x^3 + 9x + 2 - \frac{x^2 - 2x + 3}{4x^3 - 11x^2 + 8}$$