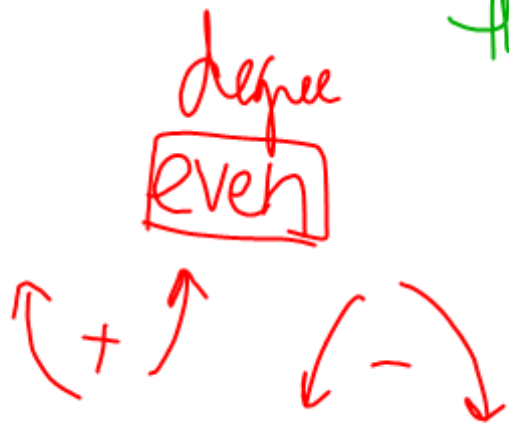


$$y = -6x^4 + 3x^3 - 2x - 1$$

The equation is written in green. The coefficient -6 and the exponent 4 are circled in red. A red arrow points from the word "even" to the circled exponent 4 .

does the left hand end of
the graph go up or down



10.2 multiply

Simplify

$$2 \cdot 3 \Rightarrow 6$$

$$2 \cdot 3 \Leftarrow 6$$

←
factor

arithmetic of polynomials

10.1 (1) add
2) subtract

10.2 3) multiply

10.3-10.4) Factor

$$(2x^3)(5x^7) = 10x^{10}$$

$$6x^3(2x-3) = 12x^4 - 18x^3$$

$$(2x-3)(5x+1)$$

$$\begin{array}{r} F_2 \quad 0 \quad 1 \quad L \\ 10x^2 + 2x - 15x - 3 \end{array}$$

$$10x^2 - 13x - 3$$

$$23 \times 54$$

$$\begin{array}{r} \text{"} \\ 23 \\ \times 54 \\ \hline \textcircled{12} \\ + 1150 \\ \hline 1242 \end{array}$$

$$\begin{array}{r} 23 \\ \hline 54 \\ \hline \end{array} \left\{ \begin{array}{l} 12 = 4 \times 3 \\ 80 = 4 \times 20 \\ 150 = 50 \times 3 \\ 1000 = 50 \times 20 \end{array} \right.$$

$$\begin{array}{r} 150 \\ \hline 1000 \\ \hline 1242 \end{array}$$

$$(2x-3)(5x+1)$$

$$\begin{array}{r} 2x-3 \\ 5x+1 \\ \hline 10x^2 + 2x - 3 \\ 10x^2 - 15x \\ \hline 10x^2 - 13x - 3 \end{array}$$

$$(x+2)(x^2-3x+6)$$

$$\begin{array}{r} x^2 - 3x + 6 \\ x \quad x+2 \\ \hline 3 \quad 2x^2 - 6x + 12 \\ X - 3x^2 + 6x \\ \hline X^3 - X^2 + 12 \end{array}$$

) Simplify

$$(2x+5)(x-3)$$

$$2x^2 - 6x + 5x - 15$$

$$2x^2 - x - 15$$

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

$$\begin{array}{r} x^3 \\ -2x^2 - 3x \\ -x + 3 \end{array}$$

$$\begin{array}{r} x^3 \\ -3x^2 \\ -x + 3 \end{array}$$

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/

Conjugates

$$(4x+3)(4x-3)$$

$$16x^2 - 12x + 12x - 9$$

$$16x^2 - 9$$

$$(4x+3)^2$$

$$(4x+3)(4x+3)$$

$$16x^2 + 12x + 12x + 9$$

$$16x^2 + 24x + 9$$

binomial square

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

$$9x^2 - 6x + 1$$

conjugates

$$(5x-2)(5x+2)$$

$$5x-2$$

$$\cdot 5x+2$$

$$10x-4$$

$$25x^2 - 10x + 0$$

$$25x^2 - 4$$

$$(5 + (x+y))(5 - (x+y))$$

$5x + 5y \quad 5$

$$(5 + \square)(5 - \square)$$

$$25 - \square^2$$

$$25 - (x+y)(x+y)$$

$$25 - (x^2 + 2xy + y^2)$$

$$25 - x^2 - 2xy - y^2$$

$$(x-1)(x-1)(x-1)$$

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

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

$$x^2 - 2x + 1$$

$$x - 1$$

$$\hline -x^2 + 2x - 1$$

$$x^3 - 2x^2 + x$$

