derivative of f(x) = x3-x2+5x

Browse Examples Surprise Me

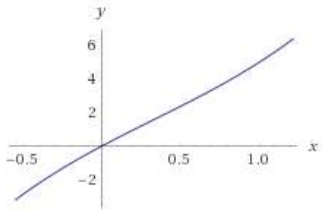
Interpreting as: **f(x) = x3-x2+5x**

Input:

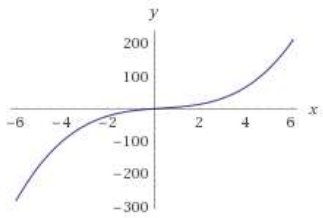
$$f(x) = x^3 - x^2 + 5x$$

Open code

Plots:



(x from −0.5 to 1.2)



(x from −6 to 6)

Alternate form:

$$f(x) = x\left(x^2 - x + 5\right)$$

Alternate form assuming x is positive:

$$x\left((x-1)\,x + 5\right) = f(x)$$

Real root: Step-by-step solution

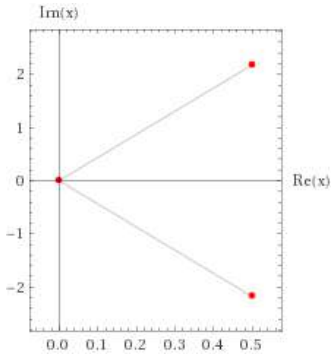
$$x = 0$$

Complex roots: Approximate forms Step-by-step solution

$$x = \frac{1}{2}\left(1 - i\sqrt{19}\right)$$

$$x = \frac{1}{2}\left(1 + i\sqrt{19}\right)$$

Roots in the complex plane:



Properties as a real function:

Domain:

$\mathbb{R}$ (all real numbers)

Range:

$\mathbb{R}$ (all real numbers)

Bijectivity:

bijective from its domain to $\mathbb{R}$

$\mathbb{R}$ is the set of real numbers

Derivative: Step-by-step solution

$$\frac{d}{dx}(x^3 - x^2 + 5x) = 3x^2 - 2x + 5$$

Indefinite integral assuming all variables are real:

$$\int (x^3 - x^2 + 5x)\,dx = \frac{x^4}{4} - \frac{x^3}{3} + \frac{5x^2}{2} + \text{constant}$$

Download Page

POWERED BY THE **WOLFRAM LANGUAGE**

Related Queries:

- plot sign(x^3 - x^2 + 5 x)
- Nook Tablet display, Kindle Fire display, iPad (3rd ge...
- is 2x^2 a term of x^3 - x^2 + 5 x
- corners of |x^3 - x^2 + 5 x|
- use Simpson's rule x^3 - x^2 + 5 x from 1 to 3 with 5 i...

Have a question about using Wolfram|Alpha?
Contact Pro Premium Expert Support »

Give us your feedback »