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

2 6 1 7

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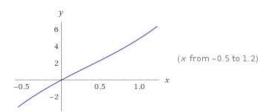
Interpreting as: f(x) = x3-x2+5x

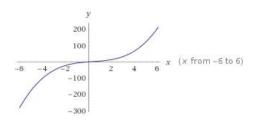
Input:

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

Open code

Plots:





Alternate form:

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

Alternate form assuming x is positive:

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

Real root:

Step-by-step solution

x = 0

Complex roots:

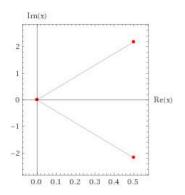
Approximate forms

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:

R (all real numbers)

Range:

R (all real numbers)

Bijectivity:

bijective from its domain to R

R is the set of real numbers

Step-by-step solution

Derivative:

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

Indefinite integral assuming all variables are real:

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

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Related Queries:

= plot sign($x^3 - x^2 + 5x$)

= corners of $|x^3 - x^2 + 5x|$

= Nook Tablet display, Kindle Fire display, iPad (3rd ge...

= use Simpson's rule $x^3 - x^2 + 5x$ from 1 to 3 with 5 i...

= is $2x^2$ a term of $x^3 - x^2 + 5x$

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