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Unlock Step-by-Step



(195/(1+157.89*exp(-0.42x)))+(103.09/(1+102.58*exp(-0.48x)))



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Examples

Random

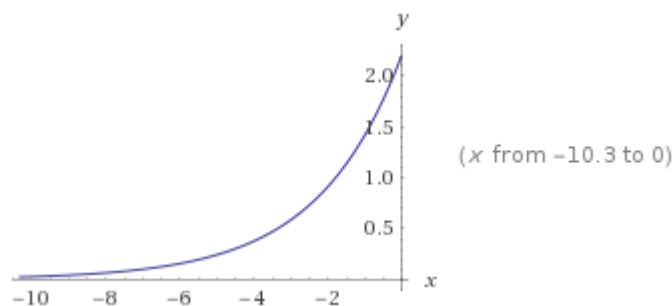
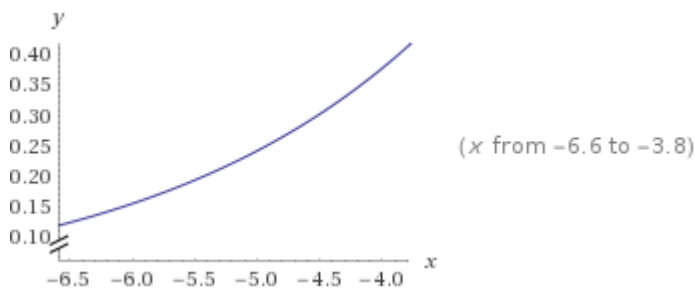
Input interpretation:

$$\frac{195}{1 + 157.89 \exp(-0.42 x)} + \frac{103.09}{1 + 102.58 \exp(-0.48 x)}$$

Result:

$$\frac{195}{157.89 e^{-0.42 x} + 1} + \frac{103.09}{102.58 e^{-0.48 x} + 1}$$

Plots:



Alternate forms:

More

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"Pi" now »

$$\frac{298.09 (54.6039 + e^{0.42 x})}{157.89 + e^{0.42 x}} - \frac{10575.}{102.58 + e^{0.48 x}}$$
$$\frac{298.09 (67.1042 e^{0.42 x} + 54.6039 e^{0.48 x} + e^{0.9 x})}{(157.89 + e^{0.42 x}) (102.58 + e^{0.48 x})}$$

Alternate form assuming x is real:

$$\frac{195}{157.89 e^{-0.42 x} + 1} + \frac{103.09}{102.58 e^{-0.48 x} + 1} + 0$$

Roots:

Exact forms

More digits

More roots

- $$x \approx (16.6667 i) (6.28319 n - (3.0171 + 0.29846 i)), \quad n \in \mathbb{Z}$$
- $$x \approx (16.6667 i) (6.28319 n + (3.0171 - 0.29846 i)), \quad n \in \mathbb{Z}$$
- $$x \approx (16.6667 i) (6.28319 n - (2.1344 + 0.550421 i)), \quad n \in \mathbb{Z}$$
- $$x \approx (16.6667 i) (6.28319 n + (2.1344 - 0.550421 i)), \quad n \in \mathbb{Z}$$
- $$x \approx (16.6667 i) (6.28319 n - (1.27641 + 0.614516 i)), \quad n \in \mathbb{Z}$$

\mathbb{Z} is the set of integers

Properties as a real function:

Approximate forms

Domain

\mathbb{R} (all real numbers)

Range

$$\{y \in \mathbb{R} : 0 < y < \frac{29809}{100}\}$$

Injectivity

injective (one-to-one)

\mathbb{R} is the set of real numbers

Periodicity:

Approximate form

periodic in x with period $\frac{100 i \pi}{3}$

Series expansion at x = 0:

$$2.22253 + 0.985324 x + 0.217565 x^2 + 0.0316193 x^3 + 0.00333683 x^4 + O(x^5)$$

(Taylor series)

Big-O notation »

Derivative:

Approximate form

☒ Step-by-step solution

$$\frac{d}{dx} \left(\frac{195}{157.89 e^{-0.42 x} + 1} + \frac{103.09}{102.58 e^{-0.48 x} + 1} \right) = \frac{5075.99 e^{0.48 x}}{(102.58 + e^{0.48 x})^2} + \frac{12931.2 e^{0.42 x}}{(157.89 + e^{0.42 x})^2}$$

Indefinite integral:

$$\int \left(\frac{195}{1 + 157.89 \exp(-0.42 x)} + \frac{103.09}{1 + 102.58 \exp(-0.48 x)} \right) dx =$$

$$464.286 \log(157.89 + e^{0.42 x}) + 214.771 \log(102.58 + e^{0.48 x}) + \text{constant}$$

$\log(x)$ is the natural logarithm

Limit:

$$\lim_{x \rightarrow -\infty} \left(\frac{103.09}{1 + 102.58 e^{-0.48 x}} + \frac{195}{1 + 157.89 e^{-0.42 x}} \right) = 0 \approx 0$$

$$\lim_{x \rightarrow \infty} \left(\frac{103.09}{1 + 102.58 e^{-0.48 x}} + \frac{195}{1 + 157.89 e^{-0.42 x}} \right) = 298.09$$

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**Standard computation time exceeded...**[Try again with Pro computation time](#)

Related Queries:

- = table d^n/dx^n ((195/(1 + 157.89 exp(-0.42 x)))+(103.09/(1 + 102.58 exp(-0.48 x))))
- = series of (195/(1 + 157.89 exp(-0.42 x)))+(103.09/(1 + 102.58 exp(-0.48 x)))
- = intercepts (195/(1 + 157.89 exp(-0.42 x)))+(103.09/(1 + 102.58 exp(-0.48 x)))
- = third derivative (195/(1 + 157.89 exp(-0.42 x)))+(103.09/(1 + 102.58 exp(-0.48 x)))
- = series of (195/(1 + 157.89 exp(-0.42 x)))+(103.09/(1 + 102.58 exp(-0.48 x)))



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