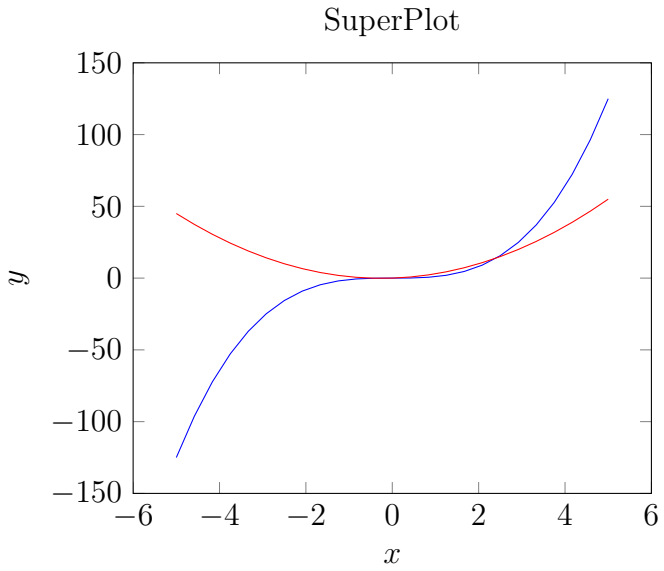
1 introductory work to the Minecraft clan "Matanists"

1.1 differentiate expression

Solution

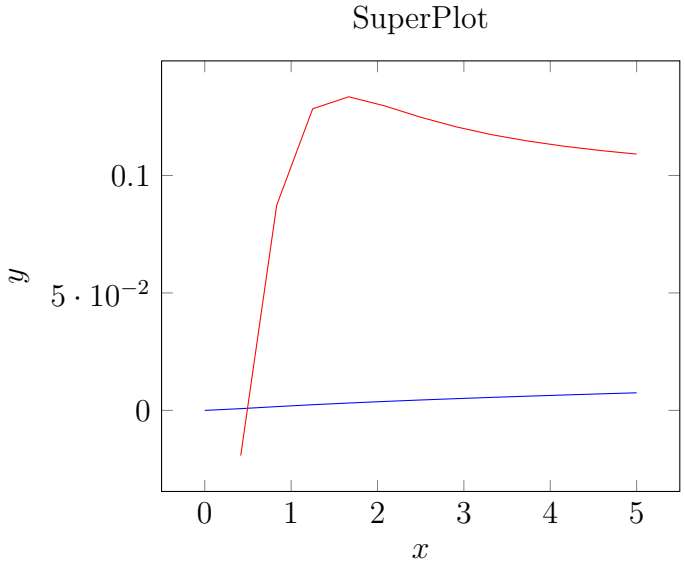
$$x \cdot x \cdot x$$



$$x + x \cdot x + x \cdot x$$

1.2 differentiate expression

$$\frac{sin(x) \cdot cos(x)}{5 + 4 \cdot 1 + ln(x) \cdot ln(x) \cdot 1 \cdot 1}$$

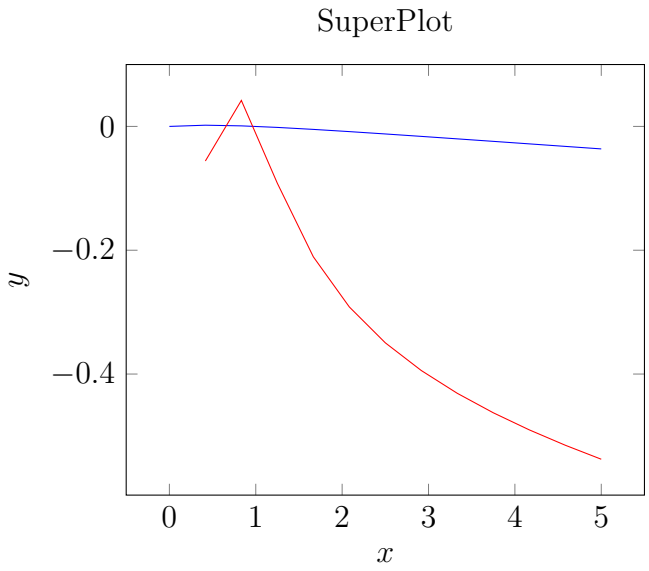


$$\frac{A0 - A1}{A2}$$

$A0 = cos(x) \cdot cos(x) + (-1) \cdot sin(x) \cdot sin(x) \cdot 9 + ln(x) \cdot ln(x)$
$A1 = sin(x) \cdot cos(x) \cdot \frac{1}{x} \cdot ln(x) + \frac{1}{x} \cdot ln(x)$
$A2 = 9 + ln(x) \cdot ln(x) \cdot 9 + ln(x) \cdot ln(x)$

1.3 differentiate expression

$$\frac{\frac{sin(x)\cdot cos(x)}{5+4\cdot 1+ln(x)\cdot ln(x)\cdot 1\cdot 1}}{cos(x)}\cdot ln(\frac{\frac{\frac{cos(x)}{x}}{x}}{x})$$

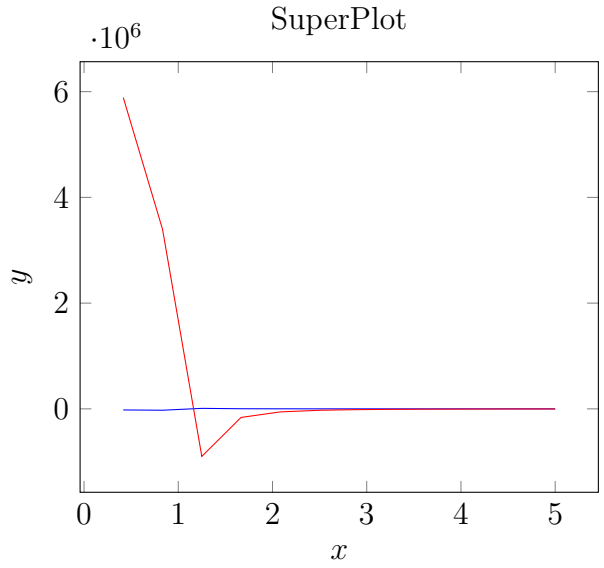


$$A0\cdot ln(\frac{\frac{\frac{cos(x)}{x}}{x}}{x})+\frac{A1}{x\cdot x}\cdot\frac{1}{\frac{\frac{\frac{cos(x)}{x}}{x}}{x}}\cdot\frac{\frac{sin(x)\cdot cos(x)}{9+ln(x)\cdot ln(x)}}{cos(x)}$$

$$\mathrm{A0}=\frac{A2\cdot cos(x)-A3}{cos(x)\cdot cos(x)}$$
$$\mathrm{A3}=\frac{sin(x)\cdot cos(x)}{9+ln(x)\cdot ln(x)}\cdot(-1)\cdot sin(x)$$

1.4 differentiate expression

$$\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{x}{x}}{x}}{x}}{x}}{x}}{x}}{x}}{x}}{x}+\frac{\frac{\frac{cos(x)}{sin(x)}}{\frac{cos(x)}{ln(x)}}}{\frac{cos(x)}{sin(x)}}$$



$$\frac{\frac{\frac{x}{x}}{\frac{x}{x}}}{\frac{A0-\frac{\frac{x}{x}}{x}}{x \cdot x}} \cdot x - \frac{\frac{x}{x}}{x} + A1$$

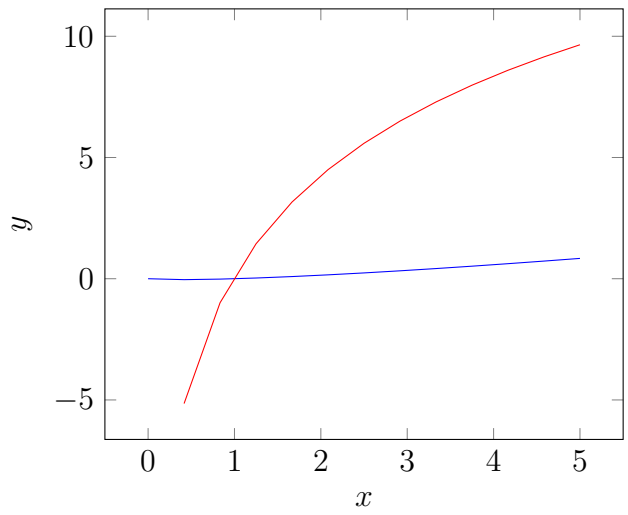
$$x \cdot x$$

$$\mathrm{A0} = \frac{\frac{A2}{x \cdot x} \cdot x - \frac{\frac{x}{x}}{x}}{x \cdot x} \cdot x$$

$$\mathrm{A1} = \frac{\frac{A3}{cos(x) \cdot cos(x)} \cdot sin(x) - \frac{\frac{cos(x)}{sin(x)}}{\frac{cos(x)}{ln(x)}} \cdot cos(x)}{sin(x) \cdot sin(x)}$$

1.5 differentiate expression

$sin(x) \cdot ln(x) \cdot cos(x) + sin(x) \cdot ln(x) \cdot cos(x) + sin(x) \cdot ln(x) \cdot cos(x) + sin(x) \cdot ln(x) \cdot cos(x) + sin(x) \cdot ln(x) \cdot cos($



$$A0 + A1 + A2 + A3$$

A0 $= A4 + A5 + A6$
A5 $= cos(x) \cdot ln(x) + \frac{1}{x} \cdot sin(x) \cdot cos(x) + (-1) \cdot sin(x) \cdot sin(x) \cdot ln(x)$
A6 $= cos(x) \cdot ln(x) + \frac{1}{x} \cdot sin(x) \cdot cos(x) + (-1) \cdot sin(x) \cdot sin(x) \cdot ln(x)$
A3 $= cos(x) \cdot ln(x) + \frac{1}{x} \cdot sin(x) \cdot cos(x) + (-1) \cdot sin(x) \cdot sin(x) \cdot ln(x)$
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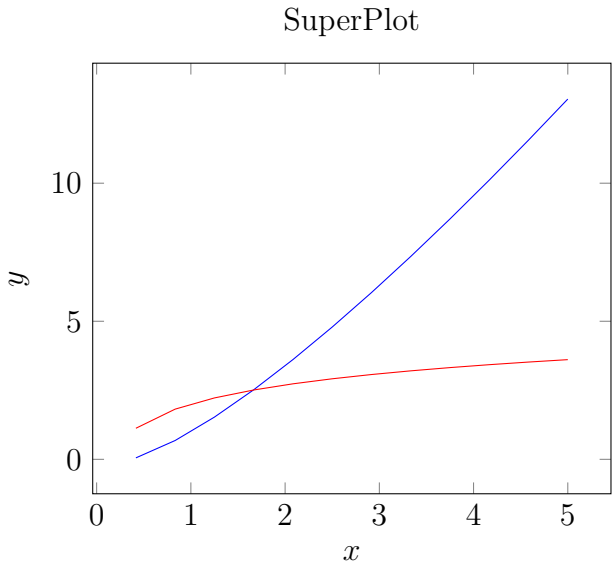
$$x + x \cdot ln(x)$$



$$1 + ln(x) + \frac{1}{x} \cdot x$$