Neodređeni integral – 2. dio

Matematika 2

Damir Horvat

FOI, Varaždin

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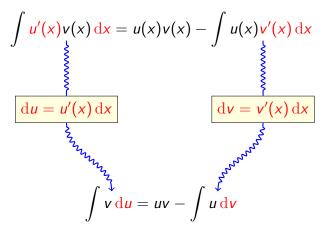
jedanaesti zadatak

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prvi zadatak

Parcijalna integracija



Riješite neodređeni integral $\int \ln x \, dx$.

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$$\int \ln x \, \mathrm{d}x =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, \mathrm{d}x = \int 1 \cdot \ln x \, \mathrm{d}x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, \mathrm{d}x = \int 1 \cdot \ln x \, \mathrm{d}x = \int (x)' \ln x \, \mathrm{d}x$$

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Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x -$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

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$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

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$$= x \ln x -$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

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$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx =$$

$$= x \ln x - \int dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx =$$

$$= x \ln x - \int dx = x \ln x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx =$$

$$= x \ln x - \int dx = x \ln x - x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx =$$

$$= x \ln x - \int dx = x \ln x - x + C$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int \ln x \, dx$.

$$\int \ln x \, dx = \int 1 \cdot \ln x \, dx = \int (x)' \ln x \, dx =$$

$$= x \ln x - \int x \cdot (\ln x)' \, dx = x \ln x - \int x \cdot \frac{1}{x} \, dx =$$

$$= x \ln x - \int dx = x \ln x - x + C, \quad C \in \mathbb{R}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

drugi zadatak

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, \mathrm{d}x = \int \left(\frac{x^5}{5}\right)' \ln 8x \, \mathrm{d}x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - 1$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} (\ln 8x)' \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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$$= \frac{x^5}{5} \ln 8x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} (\ln 8x)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} (\ln 8x)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x -$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

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$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

Rješenje

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \left(\ln 8x\right)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

 $=\frac{x^5}{5} \ln 8x - \frac{1}{5}$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \left(\ln 8x\right)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \frac{1}{5} \cdot \frac{x^5}{5}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \left(\ln 8x\right)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \frac{1}{5} \cdot \frac{x^5}{5} + C$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

Rješenje

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \left(\ln 8x\right)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx =$$

 $= \frac{x^5}{5} \ln 8x - \frac{1}{5} \cdot \frac{x^5}{5} + C = \frac{x^5}{5} \ln 8x - \frac{1}{25}x^5 + C$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

Riješite neodređeni integral $\int x^4 \ln 8x \, dx$.

$$\int x^4 \ln 8x \, dx = \int \left(\frac{x^5}{5}\right)' \ln 8x \, dx = \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} (\ln 8x)' \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \int \frac{x^5}{5} \cdot \frac{1}{8x} \cdot 8 \, dx = \frac{x^5}{5} \ln 8x - \frac{1}{5} \int x^4 \, dx =$$

$$= \frac{x^5}{5} \ln 8x - \frac{1}{5} \cdot \frac{x^5}{5} + C = \frac{x^5}{5} \ln 8x - \frac{1}{25}x^5 + C, \quad C \in \mathbb{R}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

treći zadatak

Riješite neodređeni integral $\int x \cos 3x \, dx$.

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, \mathrm{d}x =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, \mathrm{d}x = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, \mathrm{d}x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Zadatak 3

Riješite nec
$$\int \cos 3x \, dx =$$
Rješenje

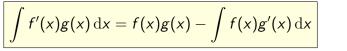
$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Zadatak 3

Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t \\ \end{bmatrix}$$
Rješenje

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite nec
$$\int \cos 3x \, dx = \left[3x = t / ' \right]$$
Rješenje



Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \end{bmatrix}$$
Rješenje

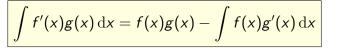
Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / ' \\ 3 \, dx \end{bmatrix}$$
 Rješenje

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = \end{bmatrix}$$
Rješenje

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

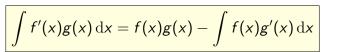
Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix}$$



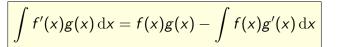
Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / ' \\ 3 \, dx = dt \end{bmatrix} =$$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

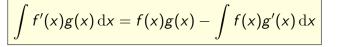
Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / ' \\ 3 \, dx = dt \end{bmatrix} = \int$$



Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / ' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t$$



Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3}$$



Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t / ' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3} =$$

$$= \frac{1}{3} \int \cos t \, \mathrm{d}t$$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t/' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3} =$$

$$=\frac{1}{3}\int\cos t\,\mathrm{d}t=\frac{1}{3}\sin t$$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

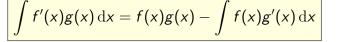
Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t/' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3} =$$

$$=\frac{1}{3}\int\cos t\,\mathrm{d}t=\frac{1}{3}\sin t+C$$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t/' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3} =$$

$$= \frac{1}{3} \int \cos t \, dt = \frac{1}{3} \sin t + C = \frac{1}{3} \sin 3x + C$$



Riješite nec
$$\int \cos 3x \, dx = \begin{bmatrix} 3x = t/' \\ 3 \, dx = dt \end{bmatrix} = \int \cos t \cdot \frac{dt}{3} =$$

$$=\frac{1}{3}\int\cos t\,\mathrm{d}t=\frac{1}{3}\sin t+C=\frac{1}{3}\sin 3x+C,\quad C\in\mathbb{R}$$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, \mathrm{d}x = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, \mathrm{d}x =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, dx =$$

$$=x\cdot\frac{1}{3}\sin 3x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' dx =$$

$$x -$$

$$=x\cdot\frac{1}{3}\sin 3x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' dx =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' dx =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

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$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

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$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

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$$=\frac{x}{3}\sin 3x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

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$$= \frac{x}{3} \sin 3x - \frac{1}{3} \cdot$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \begin{bmatrix} 3x = t \end{bmatrix}$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \left[3x = t / ' \right]$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x + \frac{x}{3} \sin 3x$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$

$$\int \sin 3x \, \mathrm{d}x = \left[\begin{array}{c} 3x = t / \\ 3 \end{array} \right]$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \left[\begin{array}{c} 3x = t / \\ 3 \, \mathrm{d}x \end{array} \right]$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \left[\begin{array}{c} 3x = t / \\ 3 \, \mathrm{d}x = \end{array} \right]$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \begin{bmatrix} 3x = t / \\ 3 \, \mathrm{d}x = \mathrm{d}t \end{bmatrix}$$

Rješe

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, \mathrm{d}x = \left[\begin{array}{c} 3x = t / \\ 3 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] =$$

 $= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x + \frac{x}{3} \sin 3x$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$

$$\int \sin 3x \, \mathrm{d}x = \left[\begin{array}{c} 3x = t / \\ 3 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, dx = \begin{vmatrix} 3x = t / \\ 3 \, dx = dt \end{vmatrix} = \int \sin t$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3} \sin 3x - \frac{1}{3} \cdot$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3}$$

Rješe

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x + \frac{x}{$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

 $= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx = \frac{x}{3} \sin 3x + \frac{x}{3} \sin 3x$

$$=\frac{1}{3}\int\sin t\,\mathrm{d}t$$

 $= \frac{x}{3}\sin 3x - \frac{1}{3}$

 $\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

$$= \frac{1}{3} \int \sin t \, \mathrm{d}t = -\frac{1}{3} \cdot \cos t$$

$$\int \sin t \, dt = -\frac{1}{3} \cdot \cos t$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

$$=\frac{1}{3}\int\sin t\,\mathrm{d}t=-\frac{1}{3}\cdot\cos t+C$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

$$\int \sin t \, \mathrm{d}t$$

$$\int S$$

$$= \frac{1}{3} \int \sin t \, dt = -\frac{1}{3} \cdot \cos t + C = -\frac{1}{3} \cos 3x + C$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3}\sin 3x - \frac{1}{3}.$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

 $=\frac{x}{3}\sin 3x-\frac{1}{3}$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

 $=\frac{1}{3}\int\sin t\,\mathrm{d}t=-\frac{1}{3}\cdot\cos t+C=-\frac{1}{3}\cos 3x+C,\quad C\in\mathbb{R}$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

 $\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$

$$\int \sin 3x \, dx = \begin{bmatrix} 3x = t / \\ 3 \, dx = dt \end{bmatrix} = \int \sin t \cdot \frac{dt}{3} =$$

$$= \frac{1}{3} \int \sin t \, \mathrm{d}t = -\frac{1}{3} \cdot \cos t + C = -\frac{1}{3} \cos 3x + C, \quad C \in \mathbb{R}$$

$$\int \int 3 dx = x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$=\frac{x}{3}\sin 3x-\frac{1}{3}\cdot\frac{-1}{3}\cos 3x$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, dx =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3} \sin 3x - \frac{1}{3} \cdot \frac{-1}{3} \cos 3x + C$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, dx = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, dx =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$= \frac{x}{3} \sin 3x - \frac{1}{3} \cdot \frac{-1}{3} \cos 3x + C = \frac{x}{3} \sin 3x + \frac{1}{9} \cos 3x + C$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int x \cos 3x \, dx$.

$$\int x \cos 3x \, \mathrm{d}x = \int x \cdot \left(\frac{1}{3} \sin 3x\right)' \, \mathrm{d}x =$$

$$= x \cdot \frac{1}{3} \sin 3x - \int (x)' \cdot \frac{1}{3} \sin 3x \, dx = \frac{x}{3} \sin 3x - \frac{1}{3} \int \sin 3x \, dx =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

četvrti zadatak

Riješite neodređeni integral $\int (x^2 + x) e^{5x} dx$.

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} \, \mathrm{d}x =$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int \left(x^2 + x\right) e^{5x} dx = \int \left(x^2 + x\right) \cdot \left(\frac{1}{5}e^{5x}\right)'$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$
$$= (x^2 + x) \cdot \frac{1}{5}e^{5x}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$
$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} -$$

$$\left| \int f'(x)g(x) \, \mathrm{d}x = f(x)g(x) - \int f(x)g'(x) \, \mathrm{d}x \right|$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x) e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$
$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^{2} + x) e^{5x} dx = \int (x^{2} + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^{2} + x) \cdot \frac{1}{5}e^{5x} - \int (x^{2} + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^{2} + \frac{1}{5}x\right)e^{5x}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x) e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} -$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\int$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x) e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right) e^{5x} - \frac{1}{5}\int (2x + 1)$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\int (2x + 1)e^{5x} dx$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

$$\int (x^2 + x) e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\int (2x+1)e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

Rješenje

$$\int (x^2 + x)e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

 $= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\int (2x+1)e^{5x} dx =$

$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

Rješenje

$$\int (x^2 + x) e^{5x} dx = \int (x^2 + x) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= (x^2 + x) \cdot \frac{1}{5}e^{5x} - \int (x^2 + x)' \cdot \frac{1}{5}e^{5x} dx =$$

 $= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\int (2x+1)e^{5x} dx =$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}$$

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

Zadatak 4

Riješite neodređeni integral $\int (x^2 + x)e^{5x} dx$.

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$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \left[(2x+1) \cdot \frac{1}{5}e^{5x}\right]$$

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$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)\,\mathrm{d}x =$$

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$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$= \left(\qquad \qquad \right)e^{5x}$$

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$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int_{-\infty}^{\infty} e^{5x} dx$$

$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\int\left(2x+1\right)\cdot\left(\frac{1}{5}e^{5x}\right)'\mathrm{d}x=$$

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$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \left[(2x+1) \cdot \frac{1}{5}e^{5x} - \int (2x+1)' \cdot \frac{1}{5}e^{5x} dx\right] =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25} \cdot \frac{1}{5}e^{5x} + C$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= \begin{pmatrix} 5^{x} + 5^{x} \end{pmatrix}^{c} = 5 \quad \int (2x + 1)^{c} \left(5^{c} \right)^{c} dx =$$

$$= \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) e^{5x} = \frac{1}{2} \cdot \left[(2x + 1) \cdot \frac{1}{2} e^{5x} - \int (2x + 1)^{c} \cdot \frac{1}{2} e^{5x} \right]$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \left[(2x+1) \cdot \frac{1}{5}e^{5x} - \int (2x+1)' \cdot \frac{1}{5}e^{5x} \, dx \right] =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} \, dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\cdot\frac{1}{5}e^{5x} + C =$$

$$= \left(\begin{array}{c} \\ \\ \\ \end{array} \right) e^{5x}$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$=\left(\frac{1}{5}x^2+\frac{1}{5}x\right)e^{5x}-\frac{1}{5}\cdot\left[(2x+1)\cdot\frac{1}{5}e^{5x}-\int(2x+1)'\cdot\frac{1}{5}e^{5x}\right]$$

 $= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\cdot \left| (2x+1)\cdot \frac{1}{5}e^{5x} - \int (2x+1)'\cdot \frac{1}{5}e^{5x} \, dx \right| =$

 $= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} dx =$

 $= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25} \cdot \frac{1}{5}e^{5x} + C =$$

 $=\left(\frac{1}{5}x^2\right)$ e^{5x}

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} dx =$$

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$$=\left(\frac{1}{5}x^2+\frac{3}{25}x\right)e^{5x}$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \left[(2x+1) \cdot \frac{1}{5}e^{5x} - \int (2x+1)' \cdot \frac{1}{5}e^{5x} \, dx \right] =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} \, dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25} \cdot \frac{1}{5}e^{5x} + C =$$

 $=\left(\frac{1}{5}x^2+\frac{3}{25}x-\frac{3}{125}\right)e^{5x}$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\cdot\int (2x+1)\cdot\left(\frac{1}{5}e^{5x}\right)'dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \left[(2x+1) \cdot \frac{1}{5}e^{5x} - \int (2x+1)' \cdot \frac{1}{5}e^{5x} \, dx \right] =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} \, dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25} \cdot \frac{1}{5}e^{5x} + C =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{3}{125}\right)e^{5x} + C$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5} \cdot \int (2x+1) \cdot \left(\frac{1}{5}e^{5x}\right)' dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \frac{1}{5}\cdot\left[(2x+1)\cdot\frac{1}{5}e^{5x} - \int (2x+1)'\cdot\frac{1}{5}e^{5x}\,\mathrm{d}x\right] =$$

$$= \left(\frac{1}{5}x^2 + \frac{1}{5}x\right)e^{5x} - \left(\frac{2}{25}x + \frac{1}{25}\right)e^{5x} + \frac{1}{5}\int 2 \cdot \frac{1}{5}e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25}\int e^{5x} dx =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{1}{25}\right)e^{5x} + \frac{2}{25} \cdot \frac{1}{5}e^{5x} + C =$$

$$= \left(\frac{1}{5}x^2 + \frac{3}{25}x - \frac{3}{125}\right)e^{5x} + C, \quad C \in \mathbb{R}$$

peti zadatak

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, \mathrm{d}x =$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, \mathrm{d}x = \int \left(\frac{1}{2}e^{2x}\right)'.$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

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Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

Rješenje

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$=\frac{1}{2}e^{2x}\sin 3x$$

 $\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x -$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx$$

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$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

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Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x}$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

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$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

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Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{3}{2}$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{3}{2}\int e^{2x} \cos 3x \, dx$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x)\,\mathrm{d}x = f(x)g(x) - \int f(x)g'(x)\,\mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{3}{2}\int e^{2x} \cos 3x \, dx =$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

 $=\frac{1}{2}e^{2x}\sin 3x-\frac{3}{2}$

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

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$$= \frac{1}{2}e^{2x} \sin 3x - \frac{3}{2}\int e^{2x} \cos 3x \, dx =$$

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Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$\int_{0}^{2} 3x - \frac{3}{2} \int e^{2x} \cos 3x \, \mathrm{d}x = 0$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

$$\int e^{2x} \sin 3x \, dx = \int \left(\frac{1}{2}e^{2x}\right)' \cdot \sin 3x \, dx =$$

$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

$$= \frac{1}{2}e^{-3\sin 3x} - \int \frac{1}{2}e^{-3\cos 3x} \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int e^{2x}\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int e^{2x}\cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx$$

Riješite neodređeni integral $\int e^{2x} \sin 3x \, dx$.

$$\int f'(x)g(x) dx = f(x)g(x) - \int f(x)g'(x) dx$$

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$$= \frac{1}{2}e^{2x} \sin 3x - \int \frac{1}{2}e^{2x} \cdot (\sin 3x)' \, dx =$$

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$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int e^{2x}\cos 3x \, dx =$$

 $= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{1}{2}\int e^{2x} \cdot 3\cos 3x \, \mathrm{d}x$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$=\frac{1}{2}e^{2x}\sin 3x$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$=\frac{1}{2}e^{2x}\sin 3x-\frac{3}{2}\cdot \left[$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$=\frac{1}{2}e^{2x}\sin 3x-\frac{3}{2}\cdot\left[\frac{1}{2}e^{2x}\cos 3x\right]$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2} \cdot \left[\frac{1}{2}e^{2x}\cos 3x - \frac{3}{2}\right]$$

$$=\frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2} \cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x} \cdot (\cos 3x)' \, dx \right]$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2} \cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x} \cdot (\cos 3x)' \, dx \right] =$$

$$=\frac{1}{2}e^{2x}\sin 3x$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x -$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x)$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx =$$

$$= \left(\qquad \qquad \right)e^{2x}$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx =$$

$$= \left(\frac{1}{2}\sin 3x\right) e^{2x}$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx =$$

$$= \left(\frac{1}{2}\sin 3x - \frac{3}{4}\cos 3x\right)e^{2x}$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx =$$

$$= \left(\frac{1}{2}\sin 3x - \frac{3}{4}\cos 3x\right)e^{2x} - \frac{9}{4}\int$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)' \, dx\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x) \, dx =$$

$$= \left(\frac{1}{2}\sin 3x - \frac{3}{4}\cos 3x\right)e^{2x} - \frac{9}{4}\int e^{2x}\sin 3x \, dx$$

$$=\frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2} \cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x} \cdot (\cos 3x)' \, dx \right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x)\,\mathrm{d}x =$$

$$= \left(\frac{1}{2}\sin 3x - \frac{3}{4}\cos 3x\right)e^{2x} - \frac{9}{4}\int e^{2x}\sin 3x \, dx$$



$$\int e^{2x} \sin 3x \, dx = \dots = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$=\frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\int \left(\frac{1}{2}e^{2x}\right)' \cdot \cos 3x \, dx =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{2}\cdot \left[\frac{1}{2}e^{2x}\cos 3x - \int \frac{1}{2}e^{2x}\cdot (\cos 3x)'\,\mathrm{d}x\right] =$$

$$= \frac{1}{2}e^{2x}\sin 3x - \frac{3}{4}e^{2x}\cos 3x + \frac{3}{2}\int \frac{1}{2}e^{2x}\cdot (-3\sin 3x)\,\mathrm{d}x =$$

$$= \left(\frac{1}{2}\sin 3x - \frac{3}{4}\cos 3x\right)e^{2x} - \frac{9}{4}\int e^{2x}\sin 3x \, dx$$



$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, \mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, \mathrm{d}x + \frac{9}{4} \int e^{2x} \sin 3x \, \mathrm{d}x$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, \mathrm{d}x + \frac{9}{4} \int e^{2x} \sin 3x \, \mathrm{d}x =$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx + \frac{9}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx + \frac{9}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

$$\frac{13}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx + \frac{9}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

$$\frac{13}{4} \int e^{2x} \sin 3x \, dx =$$

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$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

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$$\int e^{2x} \sin 3x \, dx = \frac{4}{13} \cdot \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

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$$\frac{13}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} / \cdot \frac{4}{13}$$

$$\int e^{2x} \sin 3x \, dx = \frac{4}{13} \cdot \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} + C$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

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$$\int e^{2x} \sin 3x \, dx$$

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$$\int e^{2x} \sin 3x \, dx = \left(\frac{2}{13} \sin 3x\right) e^{2x}$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} - \frac{9}{4} \int e^{2x} \sin 3x \, dx$$

$$\int e^{2x} \sin 3x \, dx + \frac{9}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

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$$\int e^{2x} \sin 3x \, dx + \frac{9}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x}$$

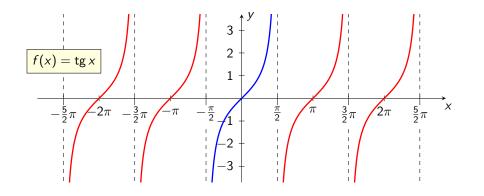
$$\frac{13}{4} \int e^{2x} \sin 3x \, dx = \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} / \cdot \frac{4}{13}$$

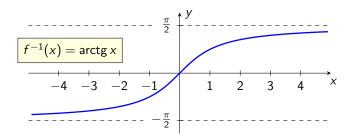
$$\int e^{2x} \sin 3x \, dx = \frac{4}{13} \cdot \left(\frac{1}{2} \sin 3x - \frac{3}{4} \cos 3x\right) e^{2x} + C$$

$$\int e^{2x} \sin 3x \, dx = \left(\frac{2}{13} \sin 3x - \frac{3}{13} \cos 3x\right) e^{2x} + C, \quad C \in \mathbb{R}$$

inverzna funkcija

Funkcija tangens i njezina





Funkcija

$$f:\left\langle -\frac{\pi}{2},\frac{\pi}{2}\right\rangle \to \mathbb{R}, \quad f(x)=\operatorname{tg} x$$

je bijekcija i ima inverznu funkciju

$$f^{-1}: \mathbb{R} o \left\langle -rac{\pi}{2}, rac{\pi}{2}
ight
angle, \quad f^{-1}(x) = \operatorname{arctg} x.$$

Derivacija inverzne funkcije jednaka je

$$\left(\operatorname{arctg} x\right)' = \frac{1}{x^2 + 1}$$

odnosno

$$\int \frac{\mathrm{d}x}{x^2 + 1} = \operatorname{arctg} x + C, \quad C \in \mathbb{R}.$$

šesti zadatak

Riješite neodređeni integral $\int \frac{x^2}{x^6+1} dx$.

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

Rješenje

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x =$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

Rješenje

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \qquad x^3 = t \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

Rješenje

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \qquad x^3 = t \, \middle/ \, ' \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \begin{array}{c} x^3 = t / \\ 3x^2 \end{array} \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x \end{array} \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
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$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \end{array} \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left| \begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right|$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left[\begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right]$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left[\begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int - - - -$$

Riješite neodređeni integral $\int \frac{x^2}{x^6+1} dx$.



$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left[\begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int \frac{1}{t^2 + 1} \, \mathrm{d}x$$

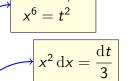
Riješite neodređeni integral $\int \frac{x^2}{x^6+1} dx$.

$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left[\begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int \frac{\frac{\mathrm{d}t}{3}}{t^2 + 1}$$

$$x^3 = t/^2$$
$$x^6 = t^2$$

$$x^2 \, \mathrm{d}x = \frac{\mathrm{d}t}{3}$$

Riješite neodređeni integral $\int \frac{x^2}{x^6+1} dx$.

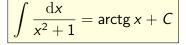


$$\int \frac{x^2}{x^6 + 1} \, \mathrm{d}x = \left[\begin{array}{c} x^3 = t / \\ 3x^2 \, \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int \frac{\frac{\mathrm{d}t}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{\mathrm{d}t}{t^2 + 1}$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} dx = \begin{bmatrix} x^3 = t/' \\ 3x^2 dx = dt \end{bmatrix} = \int \frac{\frac{dt}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{dt}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{1}$$

$$=\frac{1}{3}$$



Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} dx = \begin{bmatrix} x^3 = t/' \\ 3x^2 dx = dt \end{bmatrix} = \int \frac{\frac{dt}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} =$$
$$= \frac{1}{3} \operatorname{arctg} t$$

$$\int \frac{\mathrm{d}x}{x^2 + 1} = \arctan x + C$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x}{x^6 + 1} \, \mathrm{d}x.$$

$$\int \frac{x^2}{x^6 + 1} dx = \begin{bmatrix} x^3 = t/' \\ 3x^2 dx = dt \end{bmatrix} = \int \frac{\frac{dt}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{dt}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{1}$$

$$\int \frac{\mathrm{d}x}{x^2 + 1} = \arctan x + C$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

$$\int \frac{x^2}{x^6 + 1} dx = \begin{bmatrix} x^3 = t / \\ 3x^2 dx = dt \end{bmatrix} = \int \frac{\frac{dt}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{dt}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{1}$$

$$= \frac{1}{3} \arctan t + C = \frac{1}{3} \arctan x^3 + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 1} = \operatorname{arctg} x + C$$

Riješite neodređeni integral
$$\int \frac{x^2}{x^6+1} dx$$
.

Rješenje

$$\int \frac{x^2}{x^6 + 1} dx = \begin{bmatrix} x^3 = t/' \\ 3x^2 dx = dt \end{bmatrix} = \int \frac{\frac{dt}{3}}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{dt}{t^2 + 1} = \frac{1}{3} \int \frac{dt}{t^2 + 1} = \frac{1}$$

 $=\frac{1}{3} \operatorname{arctg} t + C = \frac{1}{3} \operatorname{arctg} x^3 + C, \quad C \in \mathbb{R}$

$$\int \frac{\mathrm{d}x}{x^2 + 1} = \operatorname{arctg} x + C$$

sedmi zadatak

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + 5}$.

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} =$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + 5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\boxed{\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C}$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(\begin{array}{c} \end{array}\right)}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3(x^2)}$$

Zadatak 7
Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3(x^2 + 1)}$$

Zadatak 7
Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\boxed{\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C}$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)}$$

Zadatak 7
Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + 5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{3$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{dx}{3x^2 + 5} = \int \frac{dx}{3(x^2 + \frac{5}{3})} = \frac{1}{3} \int \frac{dx}{1 + \frac{5}{3}}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{dx}{3x^2 + 5} = \int \frac{dx}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{dx}{x^2 + \frac{1}{3}}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + 5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.
$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$=\frac{1}{3}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2+5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$= \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2+5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$= \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}} + C$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2+5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$= \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}} + C = \frac{\sqrt{3}}{3\sqrt{5}}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2+5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$=\frac{1}{3}\cdot\frac{1}{\sqrt{\frac{5}{3}}}\arctan\frac{x}{\sqrt{\frac{5}{3}}}+C=\frac{\sqrt{3}}{3\sqrt{5}}\arctan\frac{\sqrt{3}x}{\sqrt{5}}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2+5}$$

Zadatak 7

Riješite neodređeni integral
$$\int \frac{dx}{3x^2 + 5}$$
.

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$=\frac{1}{3}\cdot\frac{1}{\sqrt{\frac{5}{3}}}\arctan\frac{x}{\sqrt{\frac{5}{3}}}+C=\frac{\sqrt{3}}{3\sqrt{5}}\arctan\frac{\sqrt{3}x}{\sqrt{5}}+C$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + 5}$. $\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$ Rješenje

$$\int \frac{dx}{3x^2 + 5} = \int \frac{dx}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{dx}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$= \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}} + C = \frac{\sqrt{3}}{3\sqrt{5}} \operatorname{arctg} \frac{\sqrt{3}x}{\sqrt{5}} + C =$$

$$= \frac{\sqrt{15}}{15}$$

$$\frac{\sqrt{3}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{3 \cdot 5} = \frac{\sqrt{15}}{15}$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + 5}$. $\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$ Rješenje

$$\int \frac{\mathrm{d}x}{3x^2 + 5} = \int \frac{\mathrm{d}x}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{\mathrm{d}x}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$J = \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}} + C = \frac{\sqrt{3}}{3\sqrt{5}} \operatorname{arctg} \frac{\sqrt{3}x}{\sqrt{5}} + C =$$

$$= \frac{1}{3} \cdot \frac{1}{\sqrt{\frac{5}{3}}} \operatorname{arctg} \frac{x}{\sqrt{\frac{5}{3}}} + C = \frac{3}{3}$$

$$3 \sqrt{\frac{5}{3}} \sqrt{\frac{5}{3}}$$

$$= \frac{\sqrt{15}}{15} \operatorname{arctg} \frac{\sqrt{15}}{5} x$$

$$\sqrt{3} \qquad \sqrt{3}$$

$$= \frac{\sqrt{15}}{15} \operatorname{arctg} \frac{\sqrt{15}}{5} x$$

$$\sqrt{3}$$
 $\sqrt{5}$

$$= \frac{\sqrt{15}}{15} \operatorname{arctg} \frac{\sqrt{15}}{5} x$$

$$\frac{\sqrt{3}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{3 \cdot 5} = \frac{\sqrt{15}}{15} \qquad \frac{\sqrt{3}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{5}$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + 5}$. $\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$

enje
$$\int \frac{dx}{3x^2 + 5} = \int \frac{dx}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{dx}{x^2 + \sqrt{\frac{5}{2}}^2} = \frac{1}{3} \int \frac{d$$

$$=\frac{1}{3}\cdot -\frac{1}{3}$$

$$\frac{x}{\sqrt{c}} + C = c$$

$$\frac{x}{\sqrt{\frac{5}{2}}} + C$$

$$\frac{3}{\sqrt{3}}$$

$$\tilde{C} =$$

$$\frac{3}{\sqrt{5}}$$
 arctg $\frac{\sqrt{3x}}{\sqrt{5}} + C =$

$$=\frac{1}{3}\cdot\frac{1}{\sqrt{\frac{5}{3}}}\arctan\frac{x}{\sqrt{\frac{5}{3}}}+C=\frac{\sqrt{3}}{3\sqrt{5}}\arctan\frac{\sqrt{3}x}{\sqrt{5}}+C=$$

$$\frac{\mathrm{d}x}{}$$

$$\frac{2}{3} \int \frac{dx}{x^2 + \sqrt{\frac{5}{3}}^2} =$$

$$\frac{\sqrt{3}}{3} \operatorname{arctg} \frac{\sqrt{3}x}{\sqrt{3}} + C =$$

$$=\frac{\sqrt{15}}{15}\operatorname{arctg}\frac{\sqrt{15}}{5}x+C$$

$$\frac{\sqrt{3}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{3 \cdot 5} = \frac{\sqrt{15}}{15} \qquad \qquad \frac{\sqrt{3}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{5}$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + 5}$. $\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$ Rješenje

$$\int \frac{1}{x^2 + a^2} =$$

$$\int \frac{dx}{3x^2 + 5} = \int \frac{dx}{3\left(x^2 + \frac{5}{3}\right)} = \frac{1}{3} \int \frac{dx}{x^2 + \sqrt{\frac{5}{3}}^2} = \frac{1}{3} \int \frac{dx}{x^2 + \sqrt{\frac{5}{3}^2}} = \frac{1}{3} \int \frac{dx}{x^$$

$$=\frac{1}{3}\cdot\frac{1}{\sqrt{\frac{5}{3}}}$$

$$\frac{3\left(x^2+\frac{5}{3}\right)}{3\left(x^2+\frac{5}{3}\right)}=$$

$$3\int$$
 $\sqrt{3}$

$$g \frac{\sqrt{g}}{\sqrt{g}}$$

$$5\frac{\sqrt{5}}{\sqrt{5}}+C$$

$$=\frac{1}{3}\cdot\frac{1}{\sqrt{\frac{5}{3}}}\arctan\frac{x}{\sqrt{\frac{5}{3}}}+C=\frac{\sqrt{3}}{3\sqrt{5}}\arctan\frac{\sqrt{3}x}{\sqrt{5}}+C=$$

$$C, \quad C \in \mathbb{R}$$

$$C, \quad C \in \mathbb{R}$$

$$=\frac{\sqrt{15}}{15}\operatorname{arctg}\frac{\sqrt{15}}{5}x+C, \quad C\in\mathbb{R}$$

$$\frac{\sqrt{3}}{3\sqrt{5}}\cdot\frac{\sqrt{5}}{\sqrt{5}}=\frac{\sqrt{15}}{3\cdot 5}=\frac{\sqrt{15}}{15} \qquad \qquad \frac{\sqrt{3}}{\sqrt{5}}\cdot\frac{\sqrt{5}}{\sqrt{5}}=\frac{\sqrt{15}}{5}$$

$$=rac{\sqrt{15}}{15}rctgrac{\sqrt{15}}{5}x+C, \quad C\in\mathbb{R}$$

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osmi zadatak

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 - 3}$.

Riješite neodređeni integral
$$\int \frac{dx}{x^2-3}$$

$$\frac{1}{x^2 - 3} =$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{dx}{x^2 - 3}$$
.

Rješenje

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2-x^2}$$

Zadatak 8
$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$
 Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2-3}$.

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}}$$

Riješite neodređeni integral
$$\int rac{\mathrm{d}x}{x^2-1}$$

Zadatak 8
$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$
 Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2-3}$.

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 - 3}$$
.

$$\int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

$$(x-\sqrt{3})(x+\sqrt{3})$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{dx}{x^2 - 3}$$
.

$$\int \frac{dx}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{(x - \sqrt{3})(x + \sqrt{3})} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$
$$= \frac{A(x + \sqrt{3})}{(x - \sqrt{3})(x + \sqrt{3})}$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{dx}{x^2 - 3}$$
.

$$\int \frac{dx}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{(x - \sqrt{3})(x + \sqrt{3})} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$
$$= \frac{A(x + \sqrt{3}) + A}{(x - \sqrt{3})(x + \sqrt{3})}$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{dx}{x^2 - 3}$$
.

$$\int \frac{dx}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$
$$= \frac{A(x + \sqrt{3}) + B(x - \sqrt{3})}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)}$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{dx}{x^2 - 3}$$
.

Diaženia

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$
$$= \frac{A(x + \sqrt{3}) + B(x - \sqrt{3})}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)}$$

$$1 = A(x + \sqrt{3}) + B(x - \sqrt{3})$$

Zadatak 8

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2-3}$$
.

Rješenje

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

$$x = \sqrt{3}$$

$$= \frac{A(x+\sqrt{3}) + B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$$

$$1 = A(x+\sqrt{3}) + B(x-\sqrt{3})$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2-3}$$
.

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

$$x = \sqrt{3}$$

$$1 = A \cdot 2\sqrt{3} + B \cdot 0$$

$$A = \frac{1}{2\sqrt{2}}$$

$$=\frac{A(x+\sqrt{3})+B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$$

$$1 = A(x + \sqrt{3}) + B(x - \sqrt{3})$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 - 3}$.

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

$$x = \sqrt{3}$$

$$1 = A \cdot 2\sqrt{3} + B \cdot 0$$

$$A = \frac{1}{2\sqrt{3}}$$

$$x = -\sqrt{3}$$

$$=\frac{A(x+\sqrt{3})+B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$$

$$1 = A(x + \sqrt{3}) + B(x - \sqrt{3})$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2-3}$.

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\frac{1}{x^2 - 3} = \frac{1}{\left(x - \sqrt{3}\right)\left(x + \sqrt{3}\right)} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$$

$$x = \sqrt{3}$$

$$1 = A \cdot 2\sqrt{3} + B \cdot 0$$

$$A = \frac{1}{2\sqrt{3}}$$

$$x = -\sqrt{3}$$

$$1 = A \cdot 0 + B \cdot \left(-2\sqrt{3}\right)$$

$$= \frac{A(x+\sqrt{3}) + B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$$

$$1 = A(x+\sqrt{3}) + B(x-\sqrt{3})$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2-3}$.

Zadatak 8

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$

 $= \frac{A(x+\sqrt{3}) + B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$

 $1 \stackrel{\searrow}{=} A(x + \sqrt{3}) + B(x - \sqrt{3})$

Rješenje

 $1 = A \cdot 0 + B \cdot (-2\sqrt{3})$

 $\frac{1}{x^2 - 3} = \frac{1}{(x - \sqrt{3})(x + \sqrt{3})} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$

 $x = \sqrt{3}$

 $1 = A \cdot 2\sqrt{3} + B \cdot 0$

 $A = \frac{1}{2\sqrt{3}}$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2-3}$.

Zadatak 8

Rješenje

 $\frac{1}{x^2 - 3} = \frac{1}{(x - \sqrt{3})(x + \sqrt{3})} = \frac{A}{x - \sqrt{3}} + \frac{B}{x + \sqrt{3}} =$

 $x = \sqrt{3}$ $1 = A \cdot 2\sqrt{3} + B \cdot 0$

 $A = \frac{1}{2\sqrt{3}}$ $x = -\sqrt{3}$

 $1 = A \cdot 0 + B \cdot \left(-2\sqrt{3}\right)$

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$

 $= \frac{A(x+\sqrt{3}) + B(x-\sqrt{3})}{(x-\sqrt{3})(x+\sqrt{3})}$

 $1 = A(x + \sqrt{3}) + B(x - \sqrt{3})$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{\mathrm{d}x}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) \mathrm{d}x$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{\mathrm{d}x}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) \mathrm{d}x =$$

$$=\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x-\sqrt{3}}$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$=\frac{1}{2\sqrt{3}}\int \frac{dx}{x-\sqrt{3}} - \frac{1}{2\sqrt{3}}\int \frac{dx}{x+\sqrt{3}}$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{\mathrm{d}x}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) \mathrm{d}x =$$

$$=\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x-\sqrt{3}}-\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x+\sqrt{3}}=$$

$$=\frac{1}{2}$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$=\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x-\sqrt{3}}-\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x+\sqrt{3}}=$$

$$=\frac{1}{2\sqrt{3}}\ln|x-\sqrt{3}|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{\mathrm{d}x}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) \mathrm{d}x =$$

$$= \frac{1}{2\sqrt{3}} \int \frac{dx}{x - \sqrt{3}} - \frac{1}{2\sqrt{3}} \int \frac{dx}{x + \sqrt{3}} =$$

$$=rac{1}{2\sqrt{3}}\ln |x-\sqrt{3}|-rac{1}{2\sqrt{3}}$$

$$\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + \mathsf{C}$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$=\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x-\sqrt{3}}-\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x+\sqrt{3}}=$$

$$=\frac{1}{2\sqrt{3}}\ln |x-\sqrt{3}|-\frac{1}{2\sqrt{3}}\ln |x+\sqrt{3}|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$= \frac{1}{2\sqrt{3}} \int \frac{dx}{x - \sqrt{3}} - \frac{1}{2\sqrt{3}} \int \frac{dx}{x + \sqrt{3}} =$$

$$=\frac{1}{2\sqrt{3}}\ln|x-\sqrt{3}|-\frac{1}{2\sqrt{3}}\ln|x+\sqrt{3}|+C$$

$$\left| \ln|a| - \ln|b| = \ln \frac{|a|}{|b|} = \ln \left| \frac{a}{b} \right| \qquad \int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + \mathsf{C}$$

$$\int \frac{\mathrm{d}x}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) \mathrm{d}x =$$

$$=\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x-\sqrt{3}}-\frac{1}{2\sqrt{3}}\int\frac{\mathrm{d}x}{x+\sqrt{3}}=$$

$$= \frac{1}{2\sqrt{3}} \ln |x - \sqrt{3}| - \frac{1}{2\sqrt{3}} \ln |x + \sqrt{3}| + C =$$

$$= \frac{1}{2\sqrt{3}} \ln \left| \frac{x - \sqrt{3}}{x + \sqrt{3}} \right| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$= \frac{1}{2\sqrt{3}} \int \frac{dx}{x - \sqrt{3}} - \frac{1}{2\sqrt{3}} \int \frac{dx}{x + \sqrt{3}} =$$

$$= \frac{1}{2\sqrt{3}} \ln|x - \sqrt{3}| - \frac{1}{2\sqrt{3}} \ln|x + \sqrt{3}| + C =$$

$$= \frac{1}{2\sqrt{3}} \ln\left|\frac{x - \sqrt{3}}{x + \sqrt{3}}\right| + C, \quad C \in \mathbb{R}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$= \frac{1}{2\sqrt{3}} \int \frac{\mathrm{d}x}{x - \sqrt{3}} - \frac{1}{2\sqrt{3}} \int \frac{\mathrm{d}x}{x + \sqrt{3}} =$$

$$= \frac{1}{2\sqrt{3}} \ln|x - \sqrt{3}| - \frac{1}{2\sqrt{3}} \ln|x + \sqrt{3}| + C =$$

$$=\frac{1}{2\sqrt{3}}\ln\left|\frac{x-\sqrt{3}}{x+\sqrt{3}}\right|+C,\quad C\in\mathbb{R}$$

$$\int \frac{\mathrm{d}x}{a^2 - x^2} = \frac{1}{2a} \ln \left| \frac{a + x}{a - x} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 - 3} = \int \left(\frac{\frac{1}{2\sqrt{3}}}{x - \sqrt{3}} + \frac{-\frac{1}{2\sqrt{3}}}{x + \sqrt{3}} \right) dx =$$

$$= \frac{1}{2\sqrt{3}} \int \frac{dx}{x - \sqrt{3}} - \frac{1}{2\sqrt{3}} \int \frac{dx}{x + \sqrt{3}} =$$

$$= \frac{1}{2\sqrt{3}} \ln\left|x - \sqrt{3}\right| - \frac{1}{2\sqrt{3}} \ln\left|x + \sqrt{3}\right| + C =$$

$$= \frac{1}{2\sqrt{3}} \ln\left|\frac{x - \sqrt{3}}{x + \sqrt{3}}\right| + C, \quad C \in \mathbb{R}$$

deveti zadatak

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 =$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(x^2\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{2}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x + \right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{4}{3}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left($$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(\left(x + \frac{1}{6}\right)^{2}\right)$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{3x^2 + x + 4}$$
.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(\left(x + \frac{1}{6}\right)^{2} + \frac{47}{36}\right)$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + x + 4}$.

Rješenje

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

= 3 ·

$$x + \frac{1}{36}$$

$$\frac{36}{36} - \frac{36}{36}$$

$$\left(\frac{1}{6}\right) - \frac{1}{36}$$

$$= 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{1}{36} \right) - \frac{1}{36} +$$

$$= 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \frac{47}{36} \right) =$$

$$-\frac{1}{36} + \frac{4}{3} =$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + x + 4}$.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$x^2 + \frac{1}{3}x + \frac{1$$

 $=3\cdot\left(\left(x+\frac{1}{6}\right)^2\right)$

$$+\frac{1}{36}$$

$$\frac{1}{36} - \frac{1}{36} +$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3} \right) =$$

$$= 3 \cdot \left(\left(x + \frac{1}{6} \right)^{2} + \frac{47}{36} \right) =$$

$$\left(-\frac{1}{26} + \frac{4}{2}\right) =$$

$$\left(\frac{4}{3}\right)$$
 $\left(\frac{1}{36}\right)$

$$\left(\frac{4}{3}\right) =$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{3x^2 + x + 4}$.

$$3x^2 + x + 4 = 3 \cdot \left(x^2 + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$\cdot \left(x^2 + \frac{1}{3}\right)$$

$$= 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \frac{47}{36} \right) =$$

 $=3\cdot\left(\left(x+\frac{1}{6}\right)^2+\right)$

$$\frac{36}{36} - \frac{47}{36} +$$

$$\frac{1}{36} - \frac{1}{36} +$$

$$\left[-\frac{1}{36} + \frac{4}{3}\right] =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

$$\frac{1}{36}$$

Zadatak 9
$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$
Riješite neodređeni integral $\int \frac{dx}{3x^2 + x + 4}$.

$$3x^{2} + x + 4 = 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{4}{3}\right) =$$

$$= 3 \cdot \left(x^{2} + \frac{1}{3}x + \frac{1}{36} - \frac{1}{36} + \frac{4}{3}\right) =$$

$$3 \cdot \left(x^2 + \frac{1}{3}x + \frac{1}{3}x\right)^2$$

$$\left(x + \frac{1}{6}\right)^2 +$$

$$\frac{1}{36} - \frac{1}{36} + \frac{47}{36} = \frac{1}{36}$$

$$\left(-\frac{1}{36} + \frac{4}{3}\right) =$$
 $\left(-\frac{47}{36}\right) =$

$$\left| -\frac{1}{36} - \frac{1}{36} + \frac{4}{3} \right| =$$

$$\left| +\frac{47}{36} \right| =$$

$$= 3 \cdot \left(x + \frac{1}{3}x + \frac{1}{36} \right) - \frac{1}{36}x + \frac{1}{3}x = \frac{1}{36}x + \frac{1}{36}x = \frac{1$$

$$+\frac{47}{36}\bigg) =$$

$$\left(\sqrt{47}\right)^2\bigg)$$

$$= 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \frac{47}{36} \right) =$$

$$= 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

 $=\frac{1}{3}\int \frac{\mathrm{d}x}{\left(x+\frac{1}{6}\right)^2+\left(\frac{\sqrt{47}}{6}\right)^2}$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

 $= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \left[\begin{array}{c} x + \frac{1}{6} = t \\ \end{array}\right]$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int \frac{3x^2 + x + 4}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} dx$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \left[\frac{x + \frac{1}{6} = t/'}{6} \right]$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int 3x^{2} + x + 4 \qquad \int 3 \cdot \left(\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2} \right)$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / ' \\ dx \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int 3x^{2} + x + 4 \qquad \int 3 \cdot \left(\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2} \right)$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / ' \\ dx = \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J = \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int 3x^{2} + x + 4 - \int 3 \cdot \left(\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2} \right) - \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} = \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} = \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int 3x^2 + x + 4 \qquad \int 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{\mathrm{d}t}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\mathrm{d}t}{6} \right)^2}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J \quad 3x^2 + x + 4 \qquad J \quad 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$-1 \int \mathrm{d}t$$

$$=\frac{1}{3}\int \frac{\mathrm{d}t}{t^2}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int \frac{3x^2 + x + 4}{3x^2 + x + 4} - \int \frac{1}{3 \cdot \left(\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2\right)} - \frac{1}{3} = \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} = \frac{1}{3} \int \frac{dt}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \frac{1}{3} \int \frac{dt}{\left(x + \frac{1}{6}\right)^2} = \frac{1}{3} \int \frac{dt}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \frac{1}{3} \int \frac{dt}{\left(x + \frac{1}{6}\right)^2} = \frac{1}{3} \int \frac{dt}{\left(x + \frac{$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t/' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{\mathrm{d}t}{t^2 + \left(\frac{\sqrt{47}}{6}\right)^2}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J \quad 3x^2 + x + 4 \qquad J \quad 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$1 \quad \int \mathrm{d}t \qquad 1$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \frac{1}{3}.$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J \quad 3x^2 + x + 4 \qquad J \quad 3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$1 \int \mathrm{d}t \qquad 1 \qquad 1 \qquad \text{and } t$$

$$=\frac{1}{3}\int\frac{\mathrm{d}t}{t^2+\left(\frac{\sqrt{47}}{6}\right)^2}=\frac{1}{3}\cdot\frac{1}{\frac{\sqrt{47}}{6}}\arctan\frac{t}{\frac{\sqrt{47}}{6}}$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$\int 3x^{2} + x + 4 \qquad \int 3 \cdot \left(\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2} \right)$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{\left(x + \frac{1}{6} \right)^{2} + \left(\frac{\sqrt{47}}{6} \right)^{2}} = \frac{1}{3} \cdot \frac{1}{3} \operatorname{arctg} \frac{t}{3} + C$$

$$=rac{1}{3}\intrac{\mathrm{d}t}{t^2+\left(rac{\sqrt{47}}{6}
ight)^2}=rac{1}{3}\cdotrac{1}{rac{\sqrt{47}}{6}}rctgrac{t}{rac{\sqrt{47}}{6}}+C$$

$$\int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{3} = \frac{2}{3} = \frac{1}{3} \cdot \frac{1}$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}}$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} -$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{t}{\sqrt{47}}$$

$$\int \frac{dx}{3x^2 + x + 4} = \int \frac{dx}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{dx}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{dt}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6 \cdot \left(x + \frac{1}{6} \right)}{\sqrt{47}}$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / ' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{\mathrm{d}t}{t^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6 \cdot \left(x + \frac{1}{6} \right)}{\sqrt{47}} + C$$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J = \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6}\right)^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} = 0$$

$$= \frac{1}{3} \int \frac{\mathrm{d}t}{t^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6 \cdot \left(x + \frac{1}{6}\right)}{\sqrt{47}} + C =$$

 $=\frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6x+1}{\sqrt{47}} + C$

$$\int \frac{\mathrm{d}x}{3x^2 + x + 4} = \int \frac{\mathrm{d}x}{3 \cdot \left(\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2 \right)} =$$

$$J \quad 3 \cdot \left(\left(x + \frac{1}{6} \right) + \left(\frac{\sqrt{47}}{6} \right) \right)$$

$$= \frac{1}{3} \int \frac{\mathrm{d}x}{\left(x + \frac{1}{6} \right)^2 + \left(\frac{\sqrt{47}}{6} \right)^2} = \begin{bmatrix} x + \frac{1}{6} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \frac{1}{3} \int \frac{\mathrm{d}t}{t^2 + \left(\frac{\sqrt{47}}{6}\right)^2} = \frac{1}{3} \cdot \frac{1}{\frac{\sqrt{47}}{6}} \operatorname{arctg} \frac{t}{\frac{\sqrt{47}}{6}} + C =$$

$$= \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6t}{\sqrt{47}} + C = \frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6 \cdot \left(x + \frac{1}{6}\right)}{\sqrt{47}} + C =$$

 $=\frac{2}{\sqrt{47}} \operatorname{arctg} \frac{6x+1}{\sqrt{47}} + C, \quad C \in \mathbb{R}$

deseti zadatak

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$.

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

$$x^2 + 5x - 4 =$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

$$x^2 + 5x - 4 = x^2 + 5x$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

$$x^2 + 5x - 4 = x^2 + 5x +$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

$\left(\frac{5}{2}\right)^2$

$$x^2 + 5x - 4 = x^2 + 5x + \frac{25}{4}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

$\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4}$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$.

$\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$.

 $\left(\frac{5}{2}\right)^2$

Rješenje

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$

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Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$.

$\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$
$$= \left(x + \frac{5}{2}\right)^{2}$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

 $\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$

$$= \left(x + \frac{5}{2}\right)^{2} - \frac{41}{4}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

 $\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$

$$= \left(x + \frac{5}{2}\right)^{2} - \frac{41}{4} =$$

$$= \left(x + \frac{5}{2}\right)^{2}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

Riješite neodređeni integral
$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$$
.

 $\left(\frac{5}{2}\right)^2$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$

$$= \left(x + \frac{5}{2}\right)^{2} - \frac{41}{4} =$$

$$= \left(x + \frac{5}{2}\right)^{2} - \frac{41}{4} =$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

Riješite neodređeni integral $\int \frac{\mathrm{d}x}{x^2 + 5x - 4}$.

$$\left(\frac{5}{2}\right)^2$$

$$x^{2} + 5x - 4 = x^{2} + 5x + \frac{25}{4} - \frac{25}{4} - 4 =$$

$$= \left(x + \frac{5}{2}\right)^{2} - \frac{41}{4} =$$

$$=\left(x+\frac{5}{2}\right)^2\,-\,\left(\frac{\sqrt{41}}{2}\right)^2$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \left[\begin{array}{c} x + \frac{5}{2} = t \\ \end{array}\right]$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \left[x + \frac{5}{2} = t \right]'$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx = \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / t \\ dx = dt \end{bmatrix}$$

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$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / t \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

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$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

 $= \int \frac{\mathrm{d}t}{t^2}$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

 $=\int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2}$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

 $= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right|$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

 $= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C$

$$\int \frac{\mathrm{d}x}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x - a}{x + a} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$=\frac{1}{\sqrt{41}}$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{1}{t - \frac{\sqrt{41}}{2}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right|$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}}$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot }{t + \frac{\sqrt{41}}{2}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right)}{t + \frac{5}{2}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2t + \sqrt{41}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2} \right|$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right)} \right|$$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} = \int \frac{\mathrm{d}x}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} =$$

$$= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right|$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{dt}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2t + \sqrt{41}} \right| + C$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$= \int \frac{\mathrm{d}t}{t^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \frac{1}{2 \cdot \frac{\sqrt{41}}{2}} \ln \left| \frac{t - \frac{\sqrt{41}}{2}}{t + \frac{\sqrt{41}}{2}} \right| + C =$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}}$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C$$

$$\int \frac{dx}{x^2 + 5x - 4} = \int \frac{dx}{\left(x + \frac{5}{2}\right)^2 - \left(\frac{\sqrt{41}}{2}\right)^2} = \begin{bmatrix} x + \frac{5}{2} = t / ' \\ dx = dt \end{bmatrix} =$$

$$=\int \frac{\mathrm{d}t}{t^2-\left(\frac{\sqrt{41}}{2}\right)^2}=\frac{1}{2\cdot\frac{\sqrt{41}}{2}}\ln\left|\frac{t-\frac{\sqrt{41}}{2}}{t+\frac{\sqrt{41}}{2}}\right|+C=$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2t - \sqrt{41}}{2t + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}} \ln \left| \frac{2 \cdot \left(x + \frac{5}{2}\right) - \sqrt{41}}{2 \cdot \left(x + \frac{5}{2}\right) + \sqrt{41}} \right| + C = \frac{1}{\sqrt{41}}$$

$$= \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C, \quad C \in \mathbb{R}$$

jedanaesti zadatak

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

 $\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x =$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

Sješenje
$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int -$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{1}{x^2+5x-4} \, \mathrm{d}x$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{(2x+5)}{x^2+5x-4}$$

Riješite neodređeni integral
$$\int \frac{5x+3}{x^2+5x-4} dx$$
.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5)}{x^2+5x-4}$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4}$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$
$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$
$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x -$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} dx = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} dx =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} dx - \frac{19}{2}$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$
$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x - \frac{19}{2} \int \frac{\mathrm{d}x}{x^2+5x-4}$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} dx = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} dx =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} dx - \frac{19}{2} \int \frac{dx}{x^2+5x-4} =$$

$$=\frac{5}{2}$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} dx = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} dx =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} dx - \frac{19}{2} \int \frac{dx}{x^2+5x-4} =$$

$$=\frac{5}{2}\ln\left|x^2+5x-4\right|$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

Rješenje

$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C$$

prethodni zadatak

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x - \frac{19}{2} \int \frac{\mathrm{d}x}{x^2+5x-4} =$$

$$=\frac{5}{2}\ln\left|x^2+5x-4\right|-\frac{19}{2}$$
.

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

Rješenje

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

prethodni zadatak

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, dx - \frac{19}{2} \int \frac{dx}{x^2+5x-4} =$$

$$= \frac{5}{2} \ln \left| x^2 + 5x - 4 \right| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right|$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

Rješenje

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln |f(x)| + C$$

prethodni zadatak

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x - \frac{19}{2} \int \frac{\mathrm{d}x}{x^2+5x-4} =$$

$$= \frac{5}{2} \ln \left| x^2 + 5x - 4 \right| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

$$\int x^2 + 5x - 4$$

Rješenje
$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} dx = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} dx =$$
prethodni

$$\int x^{2} + 5x - 4 \qquad \int x^{2} + 5x - 4$$

$$= \frac{5}{2} \int \frac{2x + 5}{x^{2} + 5x - 4} dx - \frac{19}{2} \int \frac{dx}{x^{2} + 5x - 4} =$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} dx - \frac{19}{2} \int \frac{dx}{x^2+5x-4} =$$

$$= \frac{5}{2} \ln|x^2+5x-4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln\left|\frac{2x+5-\sqrt{41}}{2x+5+\sqrt{41}}\right| + C =$$

$$\int x^{2} + 5x - 4 \, dx = \int x^{2} + 5x - 4$$
$$- \frac{5}{3} \int \frac{2x + 5}{3} \, dx = \frac{19}{3} \int \frac{dx}{3}$$

$$\frac{\mathrm{d}x}{5x-4} =$$

$$= \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{15}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{1}{2x + 5} + \frac{1}{\sqrt{41}} \right| + C =$$

$$= \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C$$

$$\frac{\mathrm{d}x}{+5x-4} =$$

Riješite neodređeni integral $\int \frac{5x+3}{x^2+5x-4} dx$.

Rješenje
$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C$$

$$\int \frac{5x+3}{x^2+5x-4} \, \mathrm{d}x = \int \frac{\frac{5}{2} \cdot (2x+5) - \frac{19}{2}}{x^2+5x-4} \, \mathrm{d}x =$$

$$\int \frac{x^2 + 5x - 4}{x^2 + 5x - 4} dx = \int \frac{x^2 + 5x - 4}{x^2 + 5x - 4} dx$$

$$= \frac{5}{2} \int \frac{2x+5}{x^2+5x-4} \, \mathrm{d}x - \frac{19}{2} \int \frac{\mathrm{d}x}{x^2+5x-4} =$$

$$= \frac{5}{2} \int \frac{1}{x^2 + 5x - 4} dx - \frac{1}{2} \int \frac{1}{x^2 + 5x - 4} dx = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C = \frac{5}{2} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2 + 5x - 4| - \frac{19}{2} \cdot \frac{1}{\sqrt{41}} \ln |x^2$$

$$\int \frac{10^{-4}}{x^2 + 5x - 4} \, dx = \int \frac{10^{-4}}{x^2 + 5x - 4} \, dx$$

 $= \frac{5}{2} \ln \left| x^2 + 5x - 4 \right| - \frac{19}{2\sqrt{41}} \ln \left| \frac{2x + 5 - \sqrt{41}}{2x + 5 + \sqrt{41}} \right| + C, \quad C \in \mathbb{R}$

$$\int \frac{\mathrm{d}x}{x^2 + 5x - 4} =$$

$$\frac{\mathrm{d}x}{+5x-4} =$$

$$\frac{\mathrm{d}x}{5x-4} =$$

$$\frac{1x}{5x-4}$$
 =

prethodni

$$\mathrm{d}x$$

dvanaesti zadatak

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} =$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2}$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \dots$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2}$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} +$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} = \frac{A}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{A$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3)}{(x+2)^2(x-3)}$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + (x+2)^2(x-3)}{(x+2)^2(x-3)}$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + B(x-3)}{(x+2)^2(x-3)}$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + B(x-3) + B(x-3)}{(x+2)^2(x-3)}$$

Riješite neodređeni integral $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + B(x-3) + C(x+2)^2}{(x+2)^2(x-3)}$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + B(x-3) + C(x+2)^2}{(x+2)^2(x-3)}$$

$$4x^2 + 3x - 20 =$$

Riješite neodređeni integral
$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx$$
.

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3} =$$

$$= \frac{A(x+2)(x-3) + B(x-3) + C(x+2)^2}{(x+2)^2(x-3)}$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20 =$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4\cdot (-2)^2 + 3\cdot (-2) - 20 = A\cdot 0$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20 = A \cdot 0 +$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4\cdot (-2)^2 + 3\cdot (-2) - 20 = A\cdot 0 + B\cdot (-5)$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$x = -2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) +$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$4x^{2} + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^{2}$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$
-10

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 =$$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4 \cdot (-2)^2 + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

 $-10 = -5B$

$$4x^2 + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$
$$-10 = -5B$$
$$B = 2$$

$$4x^{2} + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^{2}$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$
$$-10 = -5B$$
$$B = 2$$

$$4x^{2} + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

 $4 \cdot 3^2 + 3 \cdot 3 - 20$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$4 \cdot 3^2 + 3 \cdot 3 - 20 = A \cdot 0$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

 $4 \cdot 3^2 + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 +$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

 $4 \cdot 3^2 + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

25

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

25 =

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

25 = 25C

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

25 = 25C

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 2$$

 $25 = 25C$
 $C = 1$

$$4x^{2} + 3x - 20 = A(x+2)(x-3) + B(x-3) + C(x+2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

C = 1

x = 0

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 =$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3)$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + 6$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3)$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

-20

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = 6$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

-20

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

-20 =

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

-20 = -6A

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

 $-20 = -6A - 3 \cdot 2$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

 $-20 = -6A - 3 \cdot 2 + 4 \cdot 1$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

$$-20 = -6A - 3 \cdot 2 + 4 \cdot 1$$

$$-20$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

$$-20 = -6A - 3 \cdot 2 + 4 \cdot 1$$

$$-20 =$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

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$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

$$-20 = -6A - 3 \cdot 2 + 4 \cdot 1$$

$$-20 = -6A - 2$$

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

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$$-20 = -6A - 3B + 4C$$

 $-20 = -6A - 3 \cdot 2 + 4 \cdot 1$

-20 = -6A - 2

6A = 18

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

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$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

A=3

 $-20 = -6A - 3 \cdot 2 + 4 \cdot 1$

-20 = -6A - 2

6A = 18

22 / 26

$$4x^{2} + 3x - 20 = A(x + 2)(x - 3) + B(x - 3) + C(x + 2)^{2}$$

$$x = -2$$

$$4 \cdot (-2)^{2} + 3 \cdot (-2) - 20 = A \cdot 0 + B \cdot (-5) + C \cdot 0$$

$$-10 = -5B$$

$$B = 2$$

$$x = 3$$

$$4 \cdot 3^{2} + 3 \cdot 3 - 20 = A \cdot 0 + B \cdot 0 + C \cdot 25$$

$$25 = 25C$$

$$C = 1$$

$$x = 0$$

$$4 \cdot 0 + 3 \cdot 0 - 20 = A \cdot (0 + 2) \cdot (0 - 3) + B \cdot (0 - 3) + C \cdot (0 + 2)^{2}$$

$$-20 = -6A - 3B + 4C$$

 $-20 = -6A - 3 \cdot 2 + 4 \cdot 1$

-20 = -6A - 26A = 18

22 / 26

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

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$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} =$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$
$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

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$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$
$$+ 3x - 20$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} \, \mathrm{d}x =$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$
$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} \, \mathrm{d}x = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) \, \mathrm{d}x$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) dx =$$

$$= 3 \int \frac{dx}{x+2}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) dx =$$

$$= 3 \int \frac{dx}{x+2} +$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

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$$= 3 \int \frac{dx}{x+2} + 2 \int \frac{dx}{(x+2)^2}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) dx =$$

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$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$
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$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} \, \mathrm{d}x = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) \, \mathrm{d}x =$$

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

$$= 3$$

$$\int \frac{\mathrm{d}x}{\mathrm{d}x + b} = \frac{1}{2} \ln|ax + b| + C$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$$

$$\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$$

$$\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} dx = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) dx =$$

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

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + C$$

$$\int \frac{\mathrm{d}x}{(x+2)^2} =$$

 $= 3 \ln |x + 2|$

$$\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$$

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

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$ $\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

$$2 = t$$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2=t \end{array} \right]$$

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

$$=3\int \frac{\mathrm{d}x}{x+2} + 2\int \frac{\mathrm{d}x}{(x+2)^2} + \int \frac{\mathrm{d}x}{x-3} =$$

$$= 3 \ln |x + 2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\frac{x^{n+1}}{n+1} + C$$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[x+2 = t \right]'$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2=t / \\ \mathrm{d}x \end{array} \right]$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)^2$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2=t / \\ \mathrm{d}x = \end{array} \right]$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)^2$

$$t = t / t$$

 $t = dt$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right]$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$

$$\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$$

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

$$= 3 \ln|x+2|$$

 $\int \frac{\mathrm{d}x}{(x+2)^2} = \left| \begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right| =$

 $\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + C \qquad \int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2 = t /' \\ \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$

$$\int \frac{\mathrm{d}x}{(x+2)^2} = \left[\begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right] = \int \frac{\mathrm{d}t}{t^2}$$

$$= 3 \ln|x+2|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

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 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2 (x-3)$

$$\int \frac{dx}{(x+2)^2} = \begin{bmatrix} x+2 = t/' \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt$$

$$\int \frac{4x}{(x+2)^2 (x-3)} \int (x+2)(x+2)^2 (x-3)$$

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

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $= 3 \ln |x + 2|$

$$\int \frac{dx}{(x+2)^2} = \begin{bmatrix} x+2 = t/' \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt =$$

$$= \frac{t^{-1}}{-1}$$

$$\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)(x+2)^2 (x-3)$$

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

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $= 3 \ln |x + 2|$

$$\int \frac{dx}{(x+2)^2} = \begin{bmatrix} x+2 = t/' \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt =$$

$$= \frac{t^{-1}}{-1} + C$$

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

$$= 3 \ln|x+2|$$

 $\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$ $\int x^n dx = \frac{x^{n+1}}{n+1} + C$ 23/26

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

$$= 3 \ln|x+2|$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

$$= 23/26$$

 $=\frac{t^{-1}}{-1}+C=-\frac{1}{t}+C$

 $\int \frac{4x}{(x+2)^2(x-3)} \qquad \int (x+2)^2 (x+2)^2$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x+2}$$

$$\int \frac{4x}{(x+2)^2 (x-3)} \int (x+2)(x+2)^2 (x-3)$$

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

$$= 3 \ln|x+2|$$

 $\left| \int \frac{\mathrm{d}x}{\mathsf{a}x + b} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + b| + C \right| \quad \left| \int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C \right|$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x+2} + C$$

$$\int \frac{4x}{(x+2)^2 (x-3)} \int (x+2)(x+2)^2 (x-3)$$

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

$$= 3 \ln|x+2|$$

 $\left| \int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C \right| \quad \left| \int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C \right|$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x+2} + C, \quad C \in \mathbb{R}$$

$$\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)(x+2)^2 (x+2)^2 (x-3)$$

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

$$= 3 \ln|x+2|$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

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

$$= 3 \ln|x+2| - \frac{2}{x+2}$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{\mathrm{d}x}{(x+2)^2} = \left| \begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right| = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$

 $=\frac{t^{-1}}{-1}+C=-\frac{1}{t}+C=-\frac{1}{x+2}+C, \quad C\in\mathbb{R}$

 $\int (x+2)^2$

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

$$= 3 \ln|x+2| - \frac{2}{x+2} +$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{\mathrm{d}x}{(x+2)^2} = \left| \begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right| = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$

 $=\frac{t^{-1}}{-1}+C=-\frac{1}{t}+C=-\frac{1}{x+2}+C, \quad C\in\mathbb{R}$

 $\int (x+2)^2$

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

$$= 3 \ln|x+2| - \frac{2}{x+2} + \ln|x-3|$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2$

 $\int \frac{\mathrm{d}x}{(x+2)^2} = \left| \begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right| = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$

 $=\frac{t^{-1}}{-1}+C=-\frac{1}{t}+C=-\frac{1}{x+2}+C, \quad C\in\mathbb{R}$

$$= 3 \int \frac{\mathrm{d}x}{x+2} + 2 \int \frac{\mathrm{d}x}{(x+2)^2} + \int \frac{\mathrm{d}x}{x-3} =$$

$$= 3 \ln|x+2| - \frac{2}{x+2} + \ln|x-3| + C$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

 $\int \frac{4x}{(x+2)^2(x-3)} \int (x+2)^2 (x+2)^2$

 $\int \frac{\mathrm{d}x}{(x+2)^2} = \left| \begin{array}{c} x+2 = t / \\ \mathrm{d}x = \mathrm{d}t \end{array} \right| = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$

 $=\frac{t^{-1}}{-1}+C=-\frac{1}{t}+C=-\frac{1}{x+2}+C, \quad C\in\mathbb{R}$

$$= 3 \int \frac{\mathrm{d}x}{x+2} + 2 \int \frac{\mathrm{d}x}{(x+2)^2} + \int \frac{\mathrm{d}x}{x-3} =$$

$$= 3 \ln|x+2| - \frac{2}{x+2} + \ln|x-3| + C, \quad C \in \mathbb{R}$$

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C \qquad \int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

 $\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{A}{x+2} + \frac{B}{(x+2)^2} + \frac{C}{x-3}$

 $\frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} = \frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}$

 $\int \frac{4x^2 + 3x - 20}{(x+2)^2(x-3)} \, \mathrm{d}x = \int \left(\frac{3}{x+2} + \frac{2}{(x+2)^2} + \frac{1}{x-3}\right) \, \mathrm{d}x =$

trinaesti zadatak

Riješite neodređeni integral $\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x$.

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} =$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \dots$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} +$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{(x-1)^2(x^2+1)}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1)}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + (x-1)^2(x^2+1)}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + B(x^2+1)}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + B(x^2+1) + B(x^2+1)}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + B(x^2+1) + (Cx+D)(x-1)^2}{(x-1)^2(x^2+1)}$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + B(x^2+1) + (Cx+D)(x-1)^2}{(x-1)^2(x^2+1)}$$

$$x+1 =$$

Riješite neodređeni integral
$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx$$
.

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1} =$$

$$= \frac{A(x-1)(x^2+1) + B(x^2+1) + (Cx+D)(x-1)^2}{(x-1)^2(x^2+1)}$$

$$x + 1 = A(x - 1)(x^2 + 1) + B(x^2 + 1) + (Cx + D)(x - 1)^2$$

$$x + 1 = A(x - 1)(x^2 + 1) + B(x^2 + 1) + (Cx + D)(x - 1)^2$$

$$x + 1 = A(x - 1)(x^2 + 1) + B(x^2 + 1) + (Cx + D)(x - 1)^2$$

$$x + 1 = A(x - 1)(x^2 + 1) + B(x^2 + 1) + (Cx + D)(x - 1)^2$$

 $\frac{x=1}{1+1}$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$
 $x = 1$
 $x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$
 $x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$
 $x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$
 $x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

 $x = 1$
 $x = 1$
 $x = 1$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$
 $x = 1$
 $1 + 1 = A \cdot 0 + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

 $x = 1$
 $x = 1$
 $x = 1$
 $x = 1$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$
 $x = 1$
 $1 + 1 = A \cdot 0 + B \cdot 2 + D$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 =$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

B=1

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

x = i

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + i$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) +$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

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$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

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$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i^{2} = -1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

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$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

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$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 =$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot ($$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i^{2} = -1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2}$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 =$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = (Ci + D) \cdot (-2i)$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = 2C$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = 2C - 2Di$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$z_{1} = x_{1} + y_{1}i, \quad z_{2} = x_{2} + y_{2}i$$

$$z_{1} = z_{2} \Leftrightarrow (x_{1} = x_{2}) \land (y_{1} = y_{2})$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = 2C - 2Di$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$z_{1} = x_{1} + y_{1}i, \quad z_{2} = x_{2} + y_{2}i$$

$$z_{1} = z_{2} \Leftrightarrow (x_{1} = x_{2}) \land (y_{1} = y_{2})$$

$$x = i$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = 2C - 2Di$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

$$1 + 1 = A \cdot 0 + B \cdot 2 + (C + D) \cdot 0$$

$$2 = 2B$$

$$B = 1$$

$$i^{2} = -1$$

$$x = i$$

$$= 0$$

$$i + 1 = A \cdot (i - 1) \cdot (i^{2} + 1) + B \cdot (i^{2} + 1) + (Ci + D) \cdot (i - 1)^{2}$$

$$i + 1 = (Ci + D) \cdot (i^{2} - 2i + 1)$$

$$i + 1 = (Ci + D) \cdot (-2i)$$

$$1 + i = 2C - 2Di$$

$$x + 1 = A(x - 1)(x^{2} + 1) + B(x^{2} + 1) + (Cx + D)(x - 1)^{2}$$

$$x = 1$$

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$$1 = 25/26$$

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$$1 = -A + 1 - \frac{1}{2}$$

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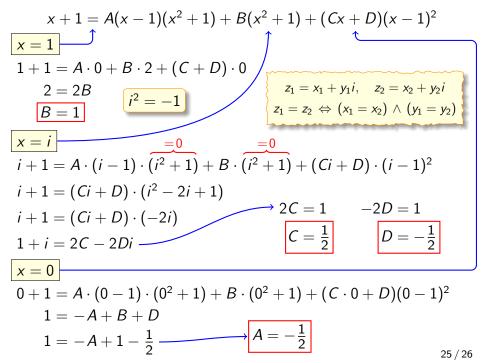
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$$1 = -A + B + D$$

$$1 = -A + 1 - \frac{1}{2}$$

$$A = -\frac{1}{2}$$

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$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$

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$$\frac{x+1}{(x-1)^2(x^2+1)} =$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$
$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$
$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x =$$

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$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \mathrm{d}x$$

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$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{2}{x-1} + \frac{2}{(x-1)^2} + \frac{2}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}\right) \, \mathrm{d}x =$$

$$=-\frac{1}{2}\int \frac{\mathrm{d}x}{x}$$

$$=-\frac{1}{2}\int \frac{\mathrm{d}x}{x-1}$$

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$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} +$$

 $\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \, \mathrm{d}x =$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$
$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{2}{x-1} + \frac{2}{(x-1)^2} + \frac{2}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}\right) \, \mathrm{d}x =$$

$$=-\frac{1}{2}\int \frac{dx}{x-1} + \int \frac{dx}{(x-1)^2}$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$
$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \, \mathrm{d}x =$$

$$=-\frac{1}{2}\int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} +$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$
$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \, \mathrm{d}x =$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2}$$

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}$

 $\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \mathrm{d}x =$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1|$$

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}$

 $\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \right) \mathrm{d}x =$

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$$\int \frac{\mathrm{d}x}{(x-1)^2} =$$

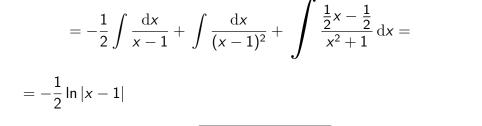
$$\int \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} \int \frac{x^2+1}{(x-1)^2(x^2+1)} \int \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} dx$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x - 1} + \int \frac{\mathrm{d}x}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1|$$

 $= -\frac{1}{2} \ln|x - 1|$ $\int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$ $\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t \\ \\ \sqrt{(x-1)^2 - (x^2+1)} \end{bmatrix}$$



 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C \qquad \int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

$$\int \frac{dx}{(x-1)^2} = \left[x - 1 = t / ' \right]$$

$$\int \frac{dx}{(x-1)^2 (x^2 + 1)} \int \frac{dx}{(x-1)^2 (x^2 + 1)} dx = -\frac{1}{2} \int \frac{dx}{(x-1)^2 (x^2 + 1)} + \int \frac{dx}{(x-1)^2 (x^2 + 1)} dx = 0$$

=	$-\frac{1}{2}\int \frac{1}{x-1} + \int$	$\int \frac{(x-1)^2}{(x-1)^2} + \int$	$\frac{2}{x^2+1}\mathrm{d}x =$	
1				

$$= -\frac{1}{2} \ln|x - 1|$$

$$\int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ dx \end{bmatrix}$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{(x-1)^2(x^2+1)}{(x-1)^2(x^2+1)} \frac{1}{x^2+1} dx = \frac{1}{2} \int \frac{dx}{x-1} + \int \frac{dx}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} dx = \frac{1}{2} \int \frac{dx}{x^2+1} dx = \frac$$

 $= -\frac{1}{2} \ln |x-1|$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ dx = \end{bmatrix}$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{dx}{(x-1)^2(x^2+1)} = -\frac{1}{2} \int \frac{dx}{x-1} + \int \frac{dx}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} dx =$$

$$=-rac{1}{2}\ln|x-1|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix}$$

$$\int \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} \int \frac{x-1}{(x-1)^2(x^2+1)} \frac{x^2+1}{(x-1)^2(x^2+1)}$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1|$$

$$\int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ dx = dt \end{bmatrix} =$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{dx}{(x-1)^2(x^2+1)} dx = \int \frac{1}{2} \int \frac{dx}{x^2+1} dx =$$

$$= -\frac{1}{2} \ln |x-1|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ dx = dt \end{bmatrix} = \int$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{dx}{(x-1)^2(x^2+1)} = \int \frac{1}{2} \frac{dx}{x^2+1} dx = \int \frac{dx}{x^2+1} dx$$

- 0

$$= -\frac{1}{2} \ln|x - 1|$$

$$\int \frac{\mathrm{d}x}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

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$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} = \int \frac{\mathrm{d}t}{t^2}$$

$$\int \frac{1}{(x-1)^2(x^2+1)} \int \frac{1}{(x-1)^2(x^2+1)} \frac{1}{(x-1)^2(x^2+1)} \int \frac{1}{(x-1)^2(x^2+1)} \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} dx$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x-1|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\frac{1}{1} + C$$
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$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t / \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt$$

$$\int \frac{dx}{(x-1)^2 (x^2+1)} \int \frac{dx}{(x-1)^2 (x^2+1)} dx = \int t^{-2} dt$$

$$= -\frac{1}{2} \ln|x - 1|$$

$$\int \frac{dx}{ax + b} = \frac{1}{a} \ln|ax + b| + C$$

$$\int x^{n} dx = \frac{x^{n+1}}{n+1} + C$$
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 $= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t / \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt =$$

$$= \frac{t^{-1}}{-1}$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{dx}{(x-1)^2(x^2+1)} dx = \int \frac{dx}{(x-1)^2} dx =$$

$$= -\frac{1}{2} \ln |x-1|$$

$$\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t / \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt =$$

$$= \frac{t^{-1}}{-1} + C$$

$$\int \frac{dx}{(x-1)^{-1}(x^2+1)} \int \frac{dx}{(x-1)^{-1}(x^2+1)} dx = \int \frac{dx}{(x-1)^2} + \int \frac{dx}{(x-1)^2} + \int \frac{dx}{x^2+1} dx =$$

$$=-rac{1}{2}\ln|x-1|$$

$$\int \frac{\mathrm{d}x}{\mathsf{a}x + \mathsf{b}} = \frac{1}{\mathsf{a}} \ln|\mathsf{a}x + \mathsf{b}| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{dx}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ dx = dt \end{bmatrix} = \int \frac{dt}{t^2} = \int t^{-2} dt =$$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C$$

$$\int \frac{dx}{(x-1)^2(x^2+1)} \int \frac{dx}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$= -\frac{1}{2} \ln |x-1|$$

$$\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ \mathrm{d}x = \mathrm{d}t' \end{bmatrix} = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x-1}$$

$$\int \frac{\mathrm{d}x}{(x-1)^{-}(x^{-}+1)} \int \frac{\mathrm{d}x}{(x-1)^{2}} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^{2}+1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^{2}} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^{2}+1} \, \mathrm{d}x =$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C \qquad \int x^n dx = \frac{x^{n+1}}{n+1} + C$$

 $=-\frac{1}{2}\ln|x-1|$

$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x-1} + C$$

$$\int \frac{1}{(x-1)^{-1}(x^{-1} + 1)} \int \frac{1}{(x-1)^{-1}(x^{-1} + 1)} \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln |x - 1|$$

$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x-1 = t/' \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x-1} + C, \quad C \in \mathbb{R}$$

$$\int \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} \int \frac{\mathrm{d}x}{(x-1)^2(x^2+1)} dx = -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \, \mathrm{d}x =$$

 $=-\frac{1}{2}\ln|x-1|$

 $\int \frac{\mathrm{d}x}{ax+b} = \frac{1}{a} \ln|ax+b| + C$ $\int x^n \, \mathrm{d}x = \frac{x^{n+1}}{n+1} + C$

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$$\int \frac{\mathrm{d}x}{(x-1)^2} = \begin{bmatrix} x - 1 = t / \\ \mathrm{d}x = \mathrm{d}t \end{bmatrix} = \int \frac{\mathrm{d}t}{t^2} = \int t^{-2} \, \mathrm{d}t =$$

$$= \frac{t^{-1}}{-1} + C = -\frac{1}{t} + C = -\frac{1}{x-1} + C, \quad C \in \mathbb{R}$$

$$\int \frac{\mathrm{d}x}{(x-1)^2 (x^2 + 1)} \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$\int \frac{dx}{ax+b} = \frac{1}{a} \ln|ax+b| + C$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$
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$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$$

$$\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} dx = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x-\frac{1}{2}}{x^2+1}\right) dx =$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x - 1} + \int \frac{\mathrm{d}x}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1}$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

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

 $= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1}$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, dx = \int \frac{1}{x^2 + 1} \, dx = \int \frac$$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1}$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, dx = \int \frac{1}{x^2 + 1} \, dx = \int \frac{1}{x^2 + 1} \, dx = \int \frac{1}{x^2 + 1} \, dx = \int \frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, dx = \int \frac{1}{x^2 + 1} \, dx = \int \frac{1}{$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{2x}{x^2 + 1}$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, dx = \int \frac{2x}{x^2 + 1}$$

$$J = -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, dx =$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{2x}}{x^2 + 1} (x^2 + 1)'$$

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot \frac{1}{2x}}{x^2 + 1} \qquad (x^2 + 1)'$$

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} \qquad (x^2 + 1)'$$

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx \qquad (x^2 + 1)'$$

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4}$$

$$\int (x - 1)^2 (x^2 + 1) \int (x - 1)^2 (x^2 + 1) dx = (x^2 + 1)'$$

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2}$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1}$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4}$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

 $\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1)$$

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

$$= -\frac{1}{2} \int \frac{dx}{x - 1} + \int \frac{dx}{(x - 1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx =$$

$$\int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2}$$

 $= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \operatorname{arctg} x$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x-1| - \frac{1}{x-1}$$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1}$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{1}{2} \frac{x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C,$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C,$$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1}$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$
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 $= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$

$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C,$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C,$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

 $= -\frac{1}{2}\ln|x - 1| - \frac{1}{x - 1} + \frac{1}{4}\ln(x^2 + 1) - \frac{1}{2}\arctan x$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$
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$$\int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} dx = \int \frac{\frac{1}{4} \cdot 2x - \frac{1}{2}}{x^2 + 1} dx = (x^2 + 1)'$$

$$= \frac{1}{4} \int \frac{2x}{x^2 + 1} dx - \frac{1}{2} \int \frac{dx}{x^2 + 1} = \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C,$$

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

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2 + 1} \, \mathrm{d}x =$$

$$= -\frac{1}{2} \ln|x - 1| - \frac{1}{x - 1} + \frac{1}{4} \ln(x^2 + 1) - \frac{1}{2} \arctan x + C$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$$

$$\int \frac{x+1}{(x-1)^2(x^2+1)} \, \mathrm{d}x = \int \left(\frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}\right) \, \mathrm{d}x =$$

$$= -\frac{1}{2} \int \frac{\mathrm{d}x}{x-1} + \int \frac{\mathrm{d}x}{(x-1)^2} + \int \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1} \, \mathrm{d}x =$$

 $=-\frac{1}{2}\ln|x-1|-\frac{1}{x-1}+\frac{1}{4}\ln\left(x^2+1\right)-\frac{1}{2}\arctan x+C,\quad C\in\mathbb{R}$

 $\left| \int \frac{f'(x)}{f(x)} \, \mathrm{d}x = \ln|f(x)| + C \right| \qquad \left| \int \frac{\mathrm{d}x}{x^2 + a^2} = \frac{1}{a} \arctan \frac{x}{a} + C \right|$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{Cx+D}{x^2+1}$

 $\frac{x+1}{(x-1)^2(x^2+1)} = \frac{-\frac{1}{2}}{x-1} + \frac{1}{(x-1)^2} + \frac{\frac{1}{2}x - \frac{1}{2}}{x^2+1}$