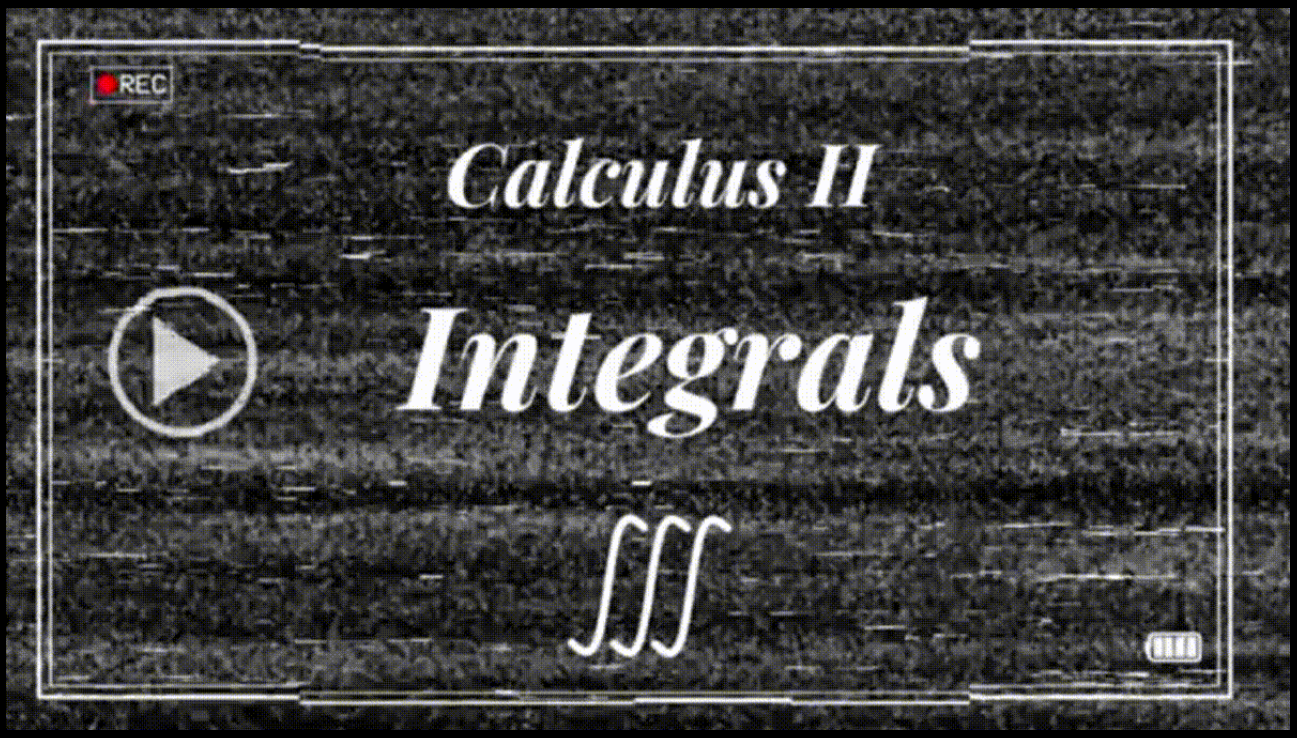

Please
1st Integral:

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

Solution:

We can integrate each term separately:

$$\int x^{\frac{3}{2}} \, dx + \int 2x \, dx + \int 1 \, dx$$

1. $\int x^{\frac{3}{2}} \, dx$:

$$\frac{x^{\frac{3}{2} + 1}}{\frac{3}{2} + 1} = \frac{x^{\frac{5}{2}}}{\frac{5}{2}} = \frac{2}{5}x^{\frac{5}{2}}$$

2.\(\int 2x \, dx\):

\cdot \frac{x^{1+1}}{1+1} = 2 \cdot \frac{x^2}{2} = x^2

3. \int 1 \, dx

A integral indefinida de \(1\) em relação a \(x\) é dada por:

\int 1 \, dx = x + C

onde \(C\) é a constante de integração. Portanto, a resposta é:

\x + C

Final Result:

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

2nd Integral:

\int \sqrt[3]{x^2} \, dx

Solution:

First, express the cube root as a fractional exponent:

$$\int x^{\frac{2}{3}} \, dx$$

Integrating:

$$\frac{x^{\frac{2}{3} + 1}}{\frac{2}{3} + 1} = \frac{x^{\frac{5}{3}}}{\frac{5}{3}} = \frac{3}{5}x^{\frac{5}{3}}$$

Final Result:

$$\int \sqrt[3]{x^2} \, dx = \frac{3}{5}x^{\frac{5}{3}} + k$$

3rd Integral:

$$\int \frac{1}{x^3} \, dx$$

Power rule for integration:

$$\int x^n \, dx = \frac{x^{n+1}}{n+1} + C \quad \text{onde} \quad n \neq -1 \quad \text{e} \qua \text{OK yes OK quesadilla you Texas you ohd C} \quad \text{representa a constante de integração}$$

Applying the rule to the given function:

\int x^{-3} \, dx = \frac{x^{-2}}{-2} + C = -\frac{1}{2x^2} + C

Solution of the integral:
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-\frac{1}{2x^2} + C
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**Final Result:*
\int \frac{1}{x^3} \, dx = -\frac{1}{2x^2} + C
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4th Integral:

\int \frac{x^2 + x + 1}{\sqrt{x}} \, dx

Solution:

We can rewrite the integral by dividing each term in the numerator by the denominator:

\int \left(\frac{x^2}{\sqrt{x}} + \frac{x}{\sqrt{x}} + \frac{1}{\sqrt{x}}\right) \, dx

This simplifies to:

\[

\int \left(x^{\frac{3}{2}} + x^{\frac{1}{2}} + x^{-\frac{1}{2}}\right)
\, dx
\]

Integrating each term:

1. \(\int x^{\frac{3}{2}} \, dx = \frac{2}{5}x^{\frac{5}{2}}\)

2. \(\int x^{\frac{1}{2}} \, dx = \frac{2}{3}x^{\frac{3}{2}}\)

3. \(\int x^{-\frac{1}{2}} \, dx = 2x^{\frac{1}{2}}\)

Final Result:

\[
\int \frac{x^2 + x + 1}{\sqrt{x}} \, dx = \frac{2}{5}x^{\frac{5}{2}}
+ \frac{2}{3}x^{\frac{3}{2}} + 2x^{\frac{1}{2}} + C
\]

You can copy and paste this LaTeX code directly into your
GitHub README to include the solutions.$