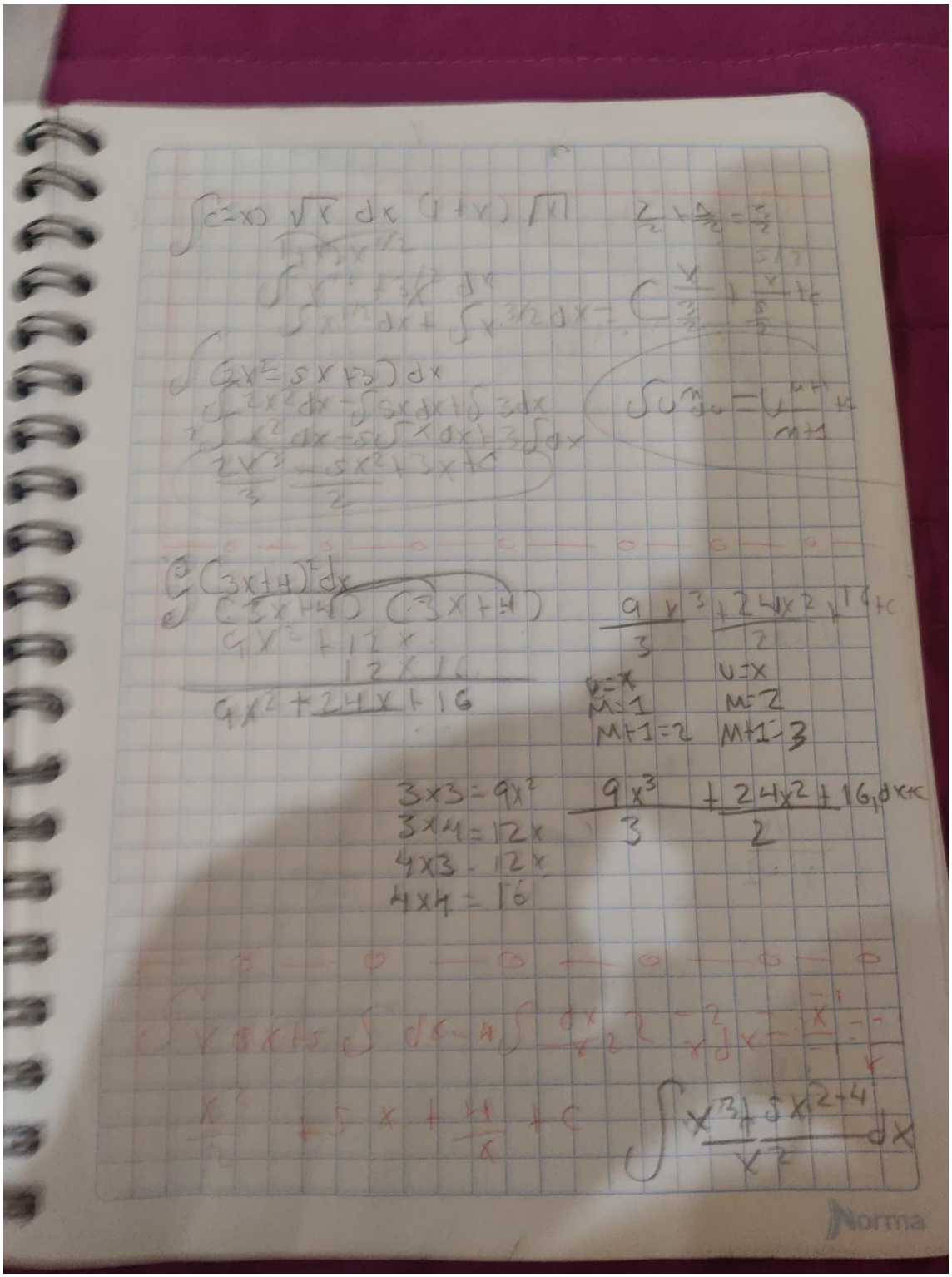
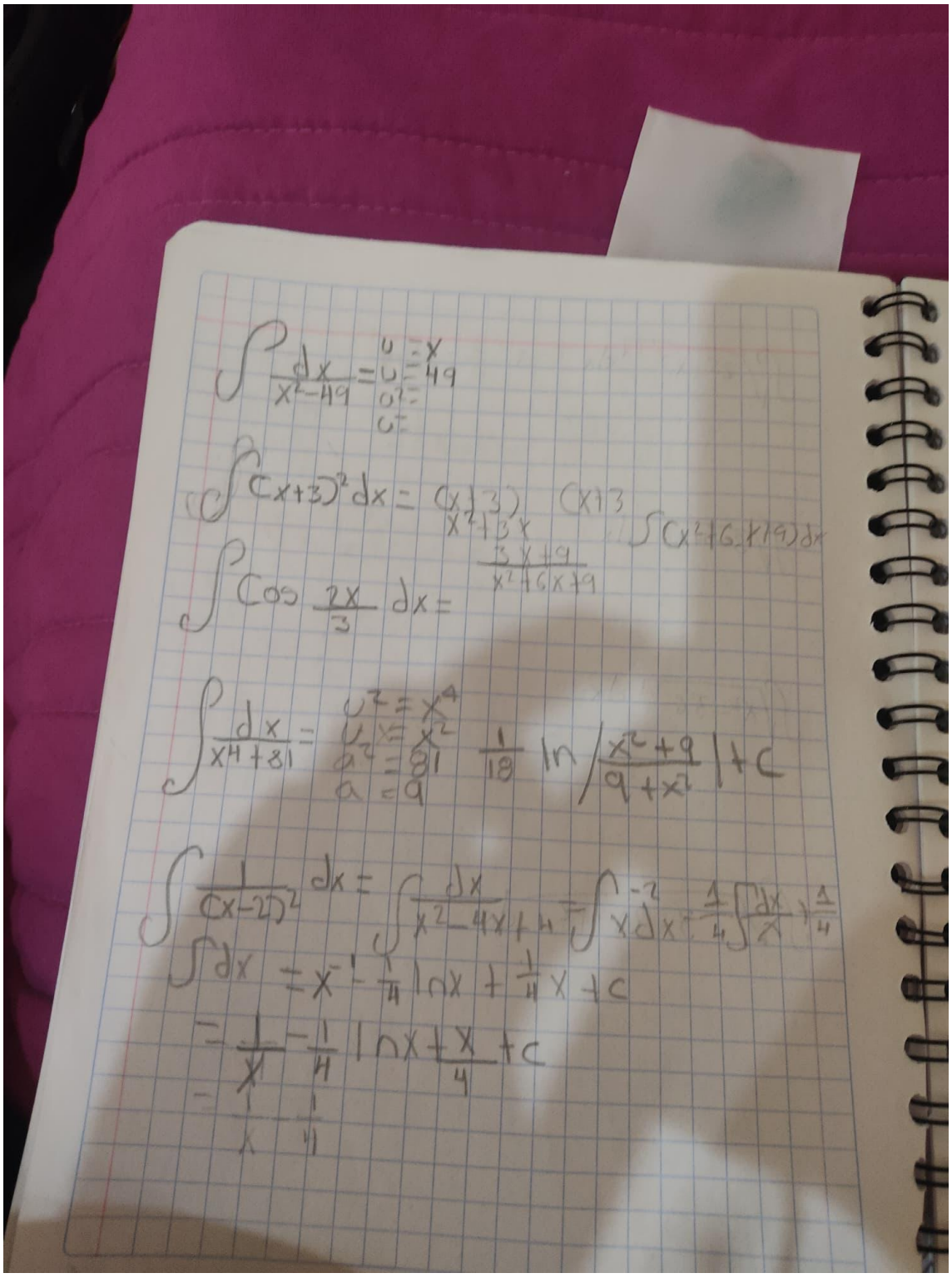




$$\int \frac{dx}{x^2-49} = \begin{matrix} u = x \\ u = 49 \\ u^2 = \\ u = \end{matrix}$$

$$\int (x+3)^2 dx = (x+3)(x+3) \quad (x+3)$$

$$x^2+3x \qquad \int (x^2+6x+9)dx$$

$$\frac{3x+9}{x^2+6x+9}$$

$$\int \cos\frac{2x}{3}\,dx =$$

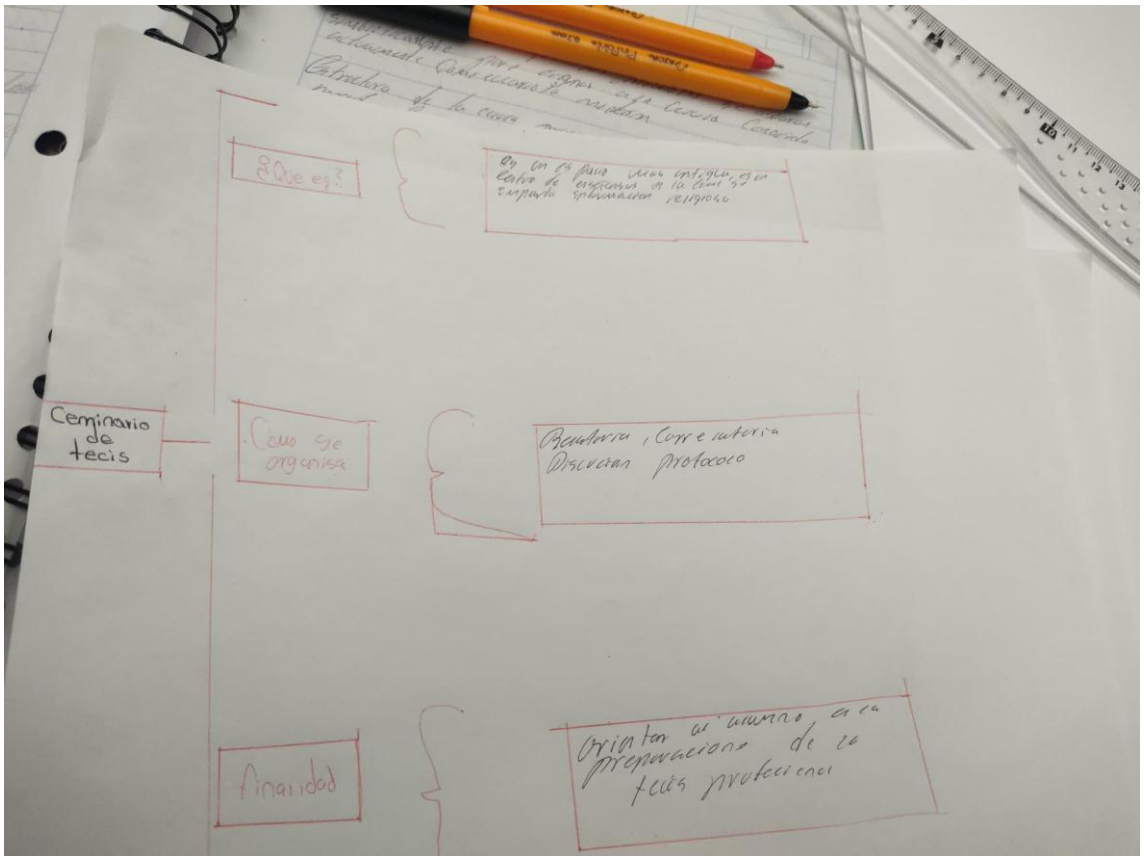
$$\int \frac{dx}{x^4+81} = \begin{matrix} u^2 = x^4 \\ u = x^2 \\ a^2 = 81 \\ a = 9 \end{matrix} \quad \frac{1}{18}\ln\left|\frac{x^2+9}{9+x^2}\right| + C$$

$$\int \frac{1}{(x-2)^2}\,dx = \int \frac{dx}{x^2-4x+4} = \int x^{-2}dx = \frac{1}{4}\int \frac{dx}{x} = \frac{1}{4}$$

$$\int dx = x^{-1} - \frac{1}{4}\ln x + \frac{1}{4}x + C$$

$$= \frac{1}{x^1} - \frac{1}{4}\ln x + \frac{x}{4} + C$$

$$= \frac{1}{x} \quad \frac{1}{4}$$


¿Que es?
Seminario de tecis
Como se organisa
Finalidad

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

$$\int \frac{(x+1)(x-2)}{\sqrt{x}}\,dx$$

$$\int \frac{dx}{x-1} = \ln|x-1| + c$$

$$\int a^{2x}\,dx = \frac{a^2}{\ln a} + c \quad a > 1 \quad a \neq 1$$

$$= \int (1 + 2\sqrt{x} + x)$$

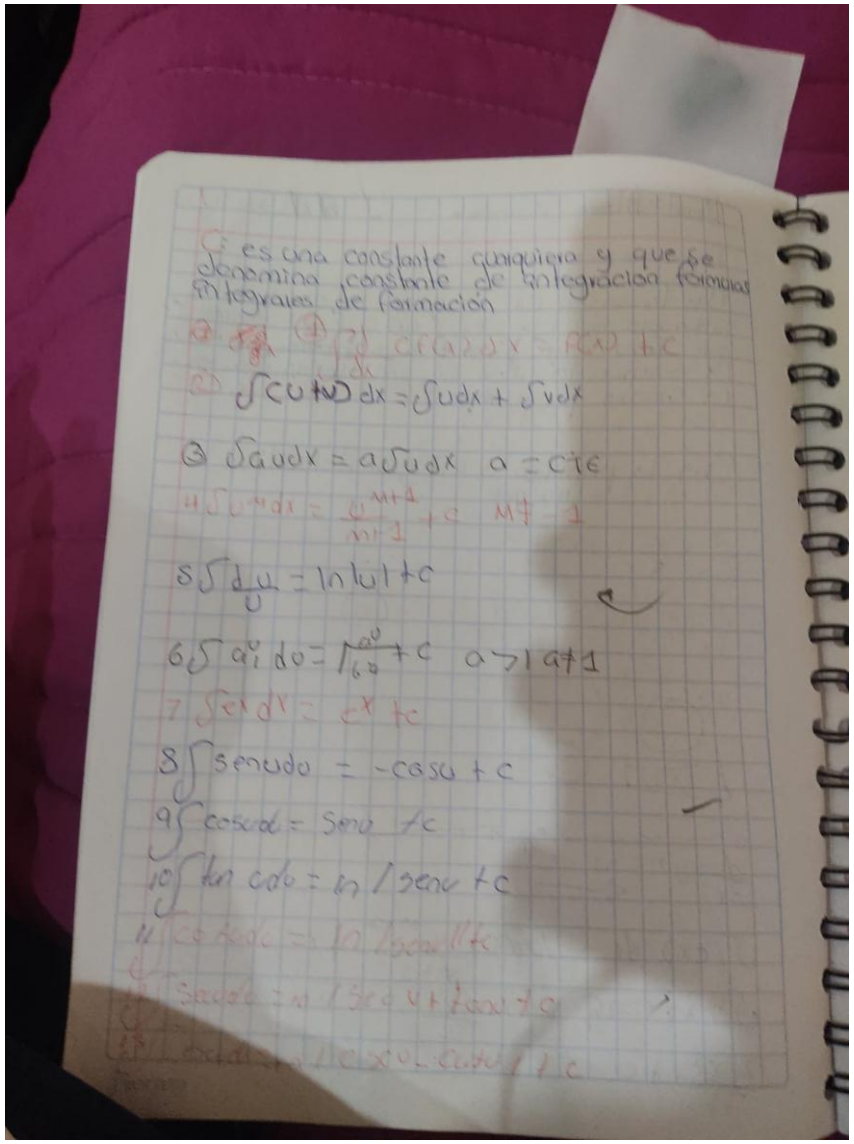
$$= \int \frac{dx}{\sqrt{x}} + 2\int \frac{\sqrt{x}}{\sqrt{x}}\,dx + \int \frac{x}{\sqrt{x}}$$

$$= \int x^{1/2}\,dx + 2\int dx + \int x^{2/1} \cdot x^{1/2}\,dx$$

$$= x + 2\sqrt{x} + 2x + \frac{x^{5/2}}{5/2} + c$$

$$= 2\sqrt{x} + 2x + \frac{x^{5/2}}{5/2} + c$$

$$= 2\sqrt{x} + 2x + \frac{2}{5}\sqrt{x^5} + c$$



C es una constante cualquiera y que se denomina constante de integración fórmulas integrales de formación

$\int cu\,dx = c\int u\,dx$

$\int (u+v)\,dx = \int u\,dx + \int v\,dx$

$\int a\,u\,dx = a\int u\,dx \quad a = cte$

$\int u^n\,dx = \frac{u^{n+1}}{n+1} + c \quad n \neq -1$

$\int \frac{du}{u} = \ln|u| + c$

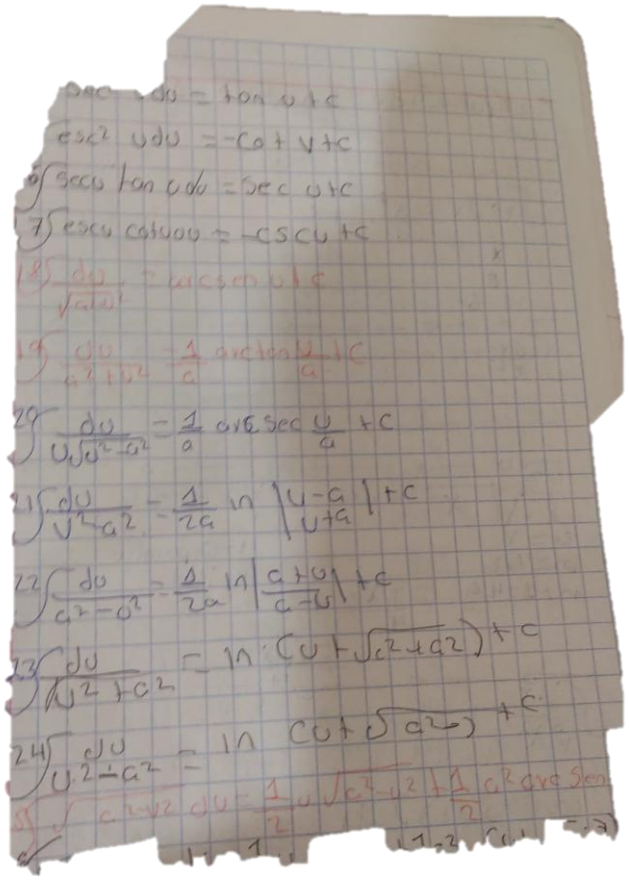
$\int a^u\,du = \frac{a^u}{\ln a} + c \quad a > 1,\ a \neq 1$

$\int e^x\,dx = e^x + c$

$\int \operatorname{sen} u\,du = -\cos u + c$

$\int \cos u\,du = \operatorname{sen} u + c$

$\int \tan u\,du = \ln|\sec u| + c$



$\int \sec u \tan u\,du = \sec u + c$

$\int \csc u \cot u\,du = -\csc u + c$

$\int \frac{du}{\sqrt{a^2-u^2}} = \operatorname{arcsen}\frac{u}{a} + c$

$\int \frac{du}{a^2+u^2} = \frac{1}{a}\arctan\frac{u}{a} + c$

$\int \frac{du}{u\sqrt{u^2-a^2}} = \frac{1}{a}\operatorname{arc\,sec}\frac{u}{a} + c$

$\int \frac{du}{u^2-a^2} = \frac{1}{2a}\ln\left|\frac{u-a}{u+a}\right| + c$

$\int \frac{du}{a^2-u^2} = \frac{1}{2a}\ln\left|\frac{a+u}{a-u}\right| + c$

$\int \frac{du}{\sqrt{u^2+a^2}} = \ln\left(u + \sqrt{a^2+u^2}\right) + c$

$\int \frac{du}{u^2-a^2} = \ln\left(u + \sqrt{a^2-u^2}\right) + c$

$\int \sqrt{a^2-u^2}\,du = \frac{1}{2}u\sqrt{a^2-u^2} + \frac{1}{2}a^2\operatorname{arc\,sen}$