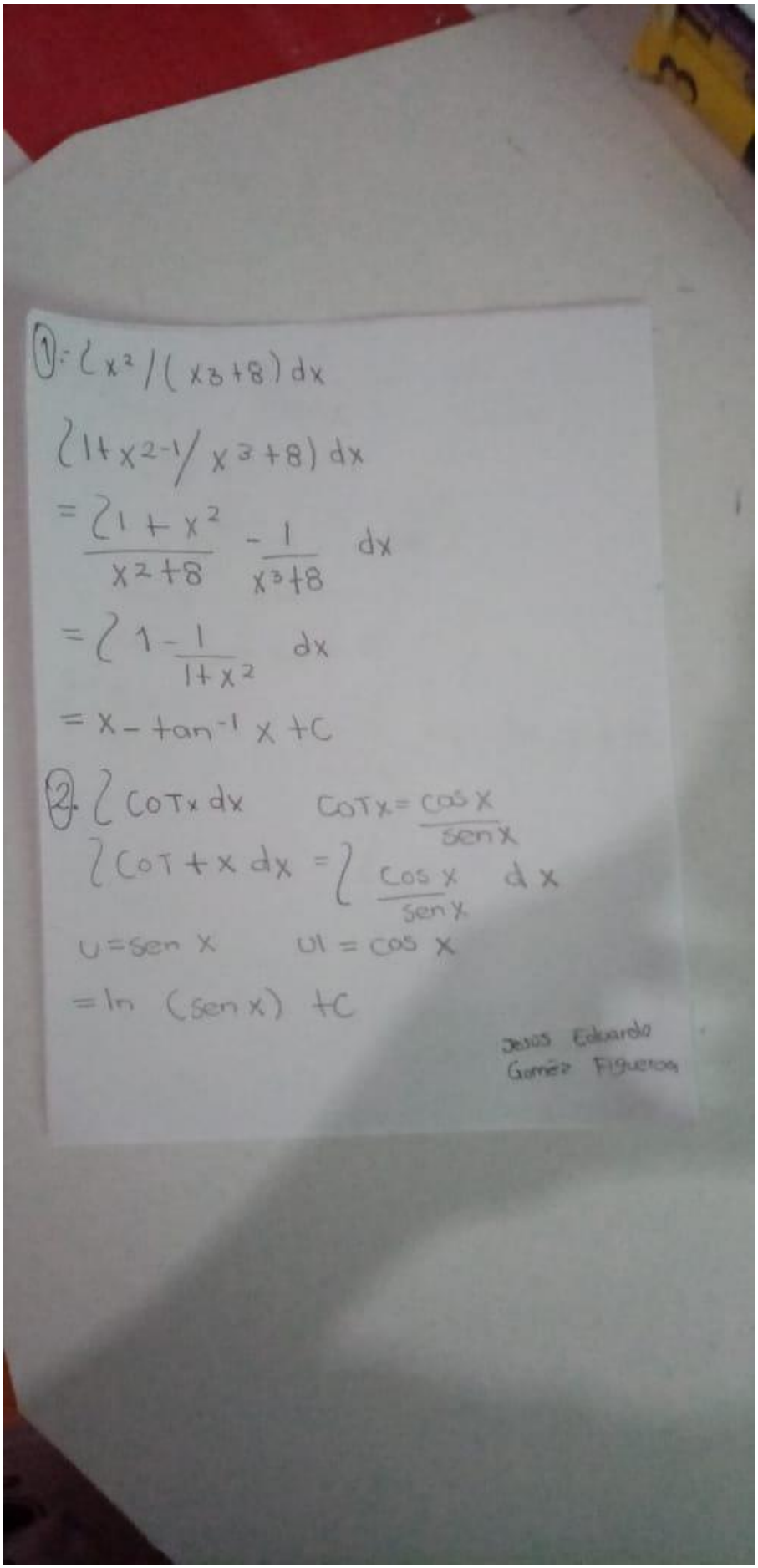

① $\int x^2/(x^3+8)\,dx$

$\int (1+x^2-1)/(x^3+8)\,dx$

$= \int \frac{1+x^2}{x^3+8} - \frac{1}{x^3+8}\,dx$

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

$= x - \tan^{-1} x + C$

② $\int \cot x\,dx \qquad \cot x = \frac{\cos x}{\operatorname{sen} x}$

$\int \cot x\,dx = \int \frac{\cos x}{\operatorname{sen} x}\,dx$

$u = \operatorname{sen} x \qquad du = \cos x$

$= \ln(\operatorname{sen} x) + C$

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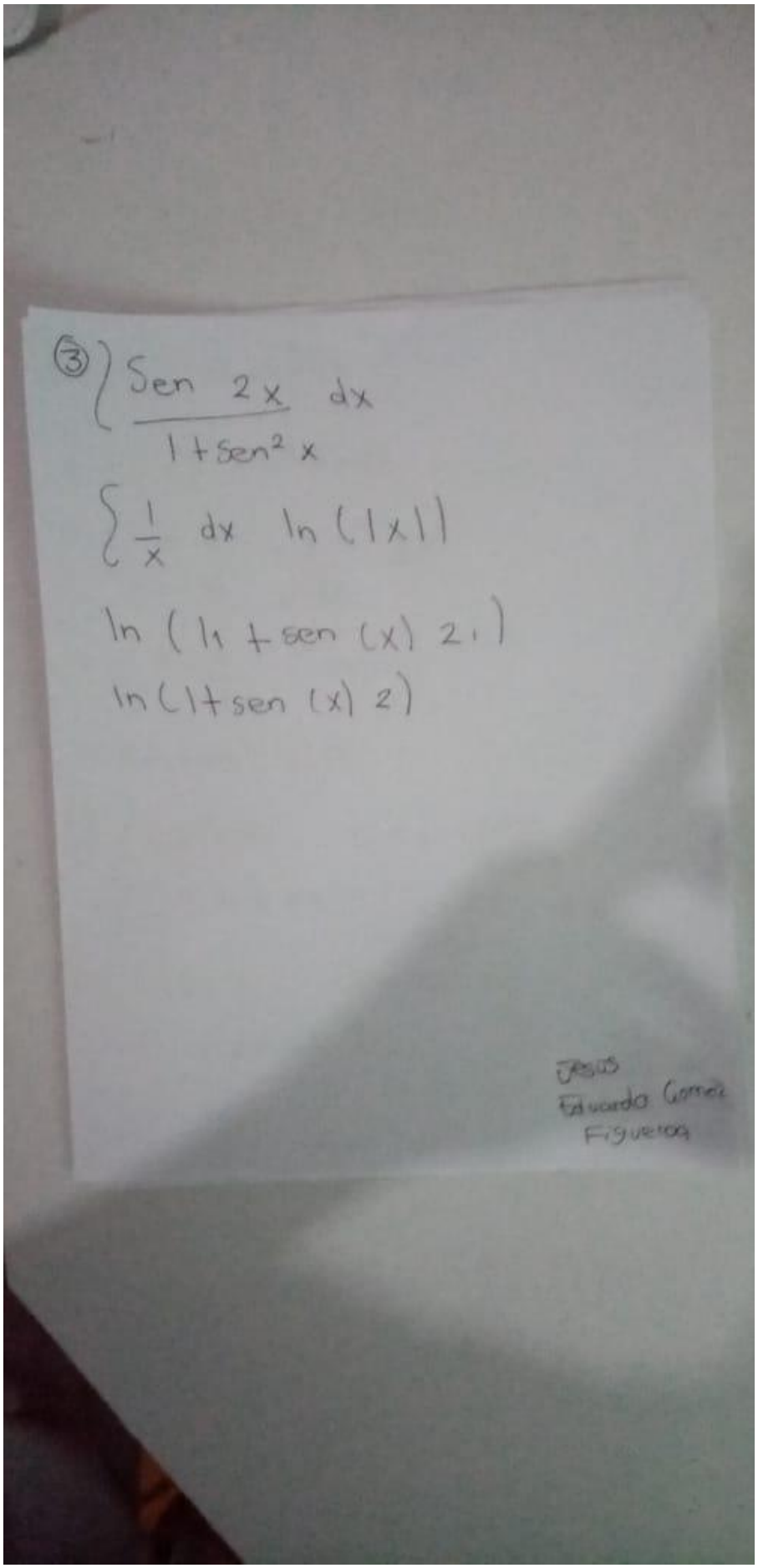

③ $\int \frac{\text{Sen } 2x}{1+\text{Sen}^2 x}\, dx$

$\int \frac{1}{x}\, dx \quad \ln(|x|)$

$\ln(|1+\text{sen}(x)\,2.|)$

$\ln(|1+\text{sen}(x)\,2|)$

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④ $\frac{dx}{TAN\,x} \quad \frac{1}{TAN\,x} = \frac{\cos x}{sen\,x}$

$COT\,X = \frac{1}{TAN\,x} = \frac{\cos x}{sen\,x}$

$u = sen\,x \quad u' = \cos x$

$= \ln(sen\,x) + C$

$\int \frac{dx}{TAN} = \int \frac{\cos x}{sen\,x}\,dx = \ln(sen) + C$

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⑤ $\int \frac{(2x^3 + x^2 - x)}{x^2} \, dx$

$3x^3 - x + x^2 + 0 \quad | \quad x^2 + 1$

$-3x^3 \quad\quad -x^2$

$\quad\quad\quad\quad 0 \quad\quad 3x - 1$

$\quad -x \quad\quad +1$

$\quad +x$

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

$D = 3x^3 - x^2 - x)$

$d = x^2 + 1$

$C = 3x - 1$

$r = 4$

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