Reporte de actividades

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Nombre del tema: Reporte de actividades.

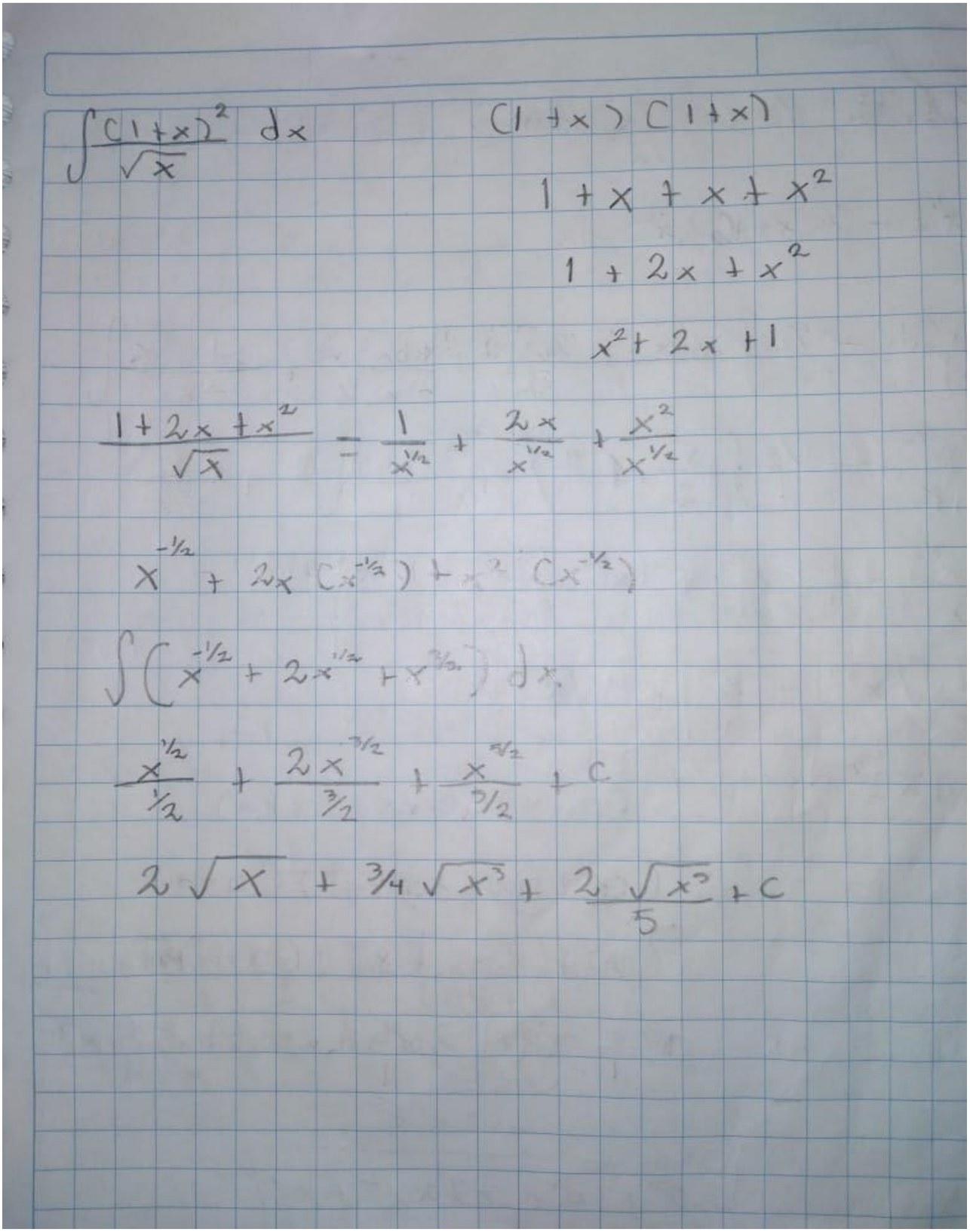
Parcial: I

Nombre de la Materia: Matemáticas aplicadas.

Nombre del profesor: Juan José Ojeda.

Nombre de la Licenciatura: Bachillerato en enfermería.

Cuatrimestre: 6° semestre.



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

$$(1+x)(1+x)$$

$$1+x+x+x^2$$

$$1+2x+x^2$$

$$x^2+2x+1$$

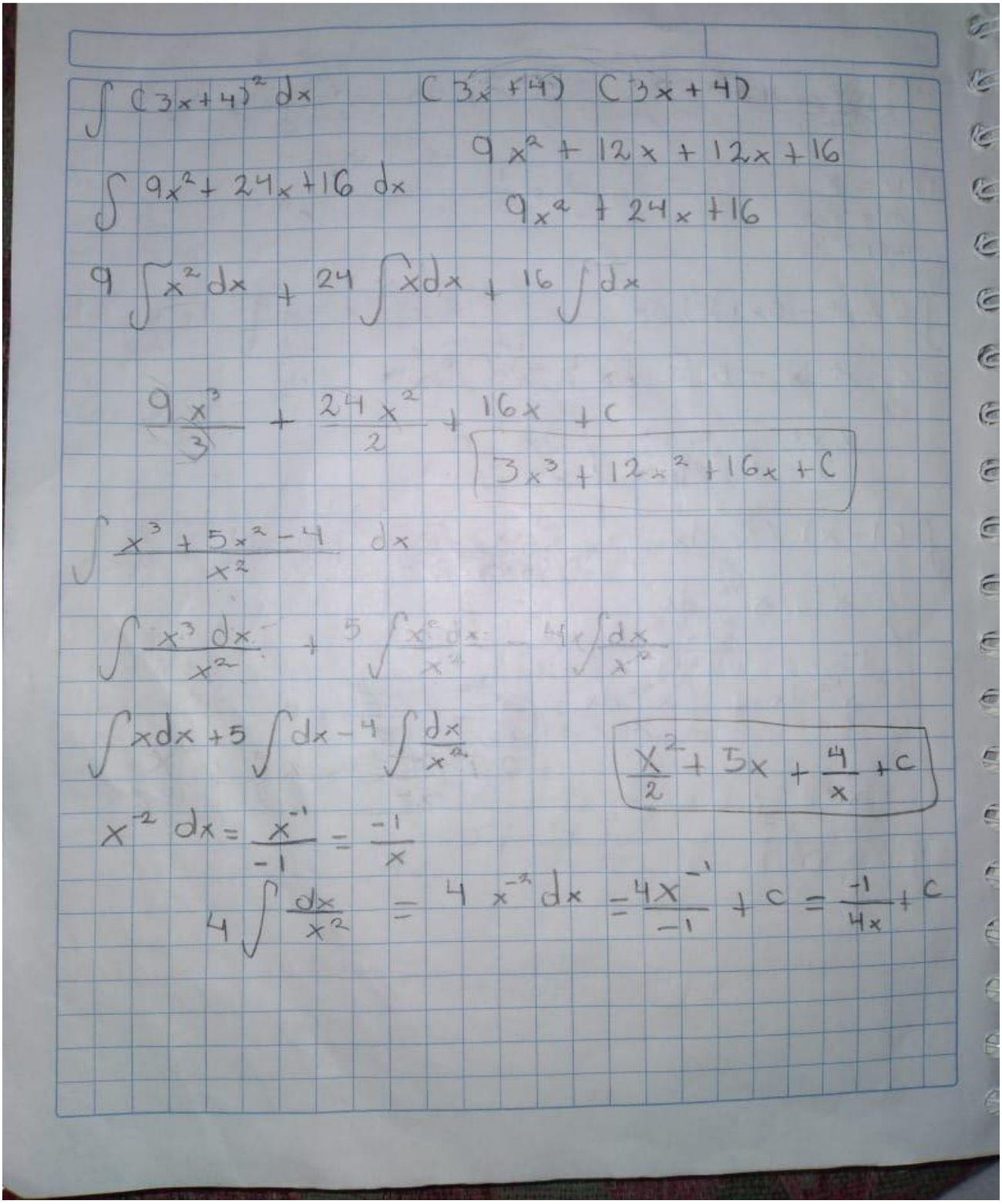
$$\frac{1+2x+x^2}{\sqrt{x}} = \frac{1}{x^{1/2}} + \frac{2x}{x^{1/2}} + \frac{x^2}{x^{1/2}}$$

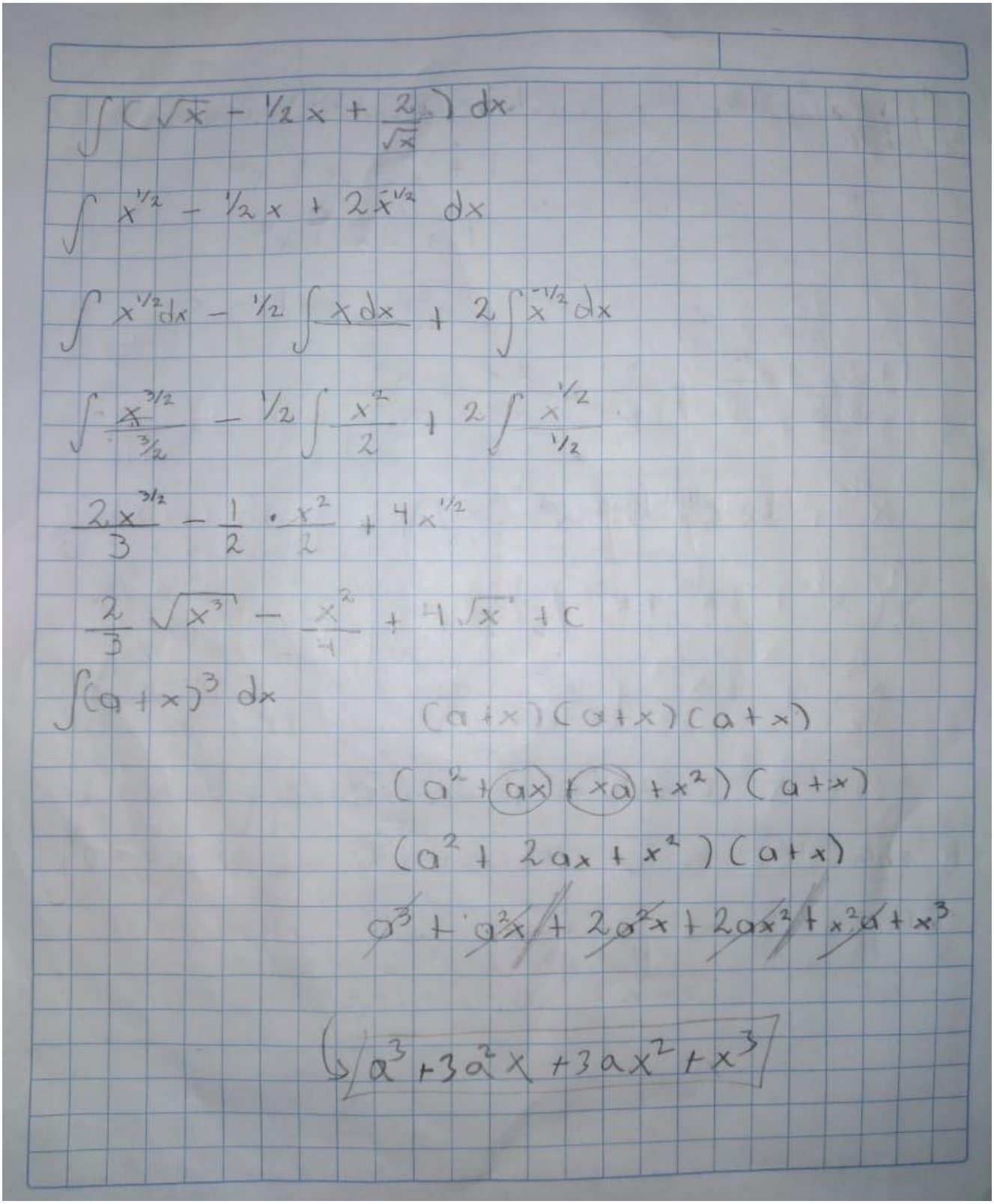
$$x^{-1/2} + 2x\,(x^{-1/2}) + x^2\,(x^{-1/2})$$

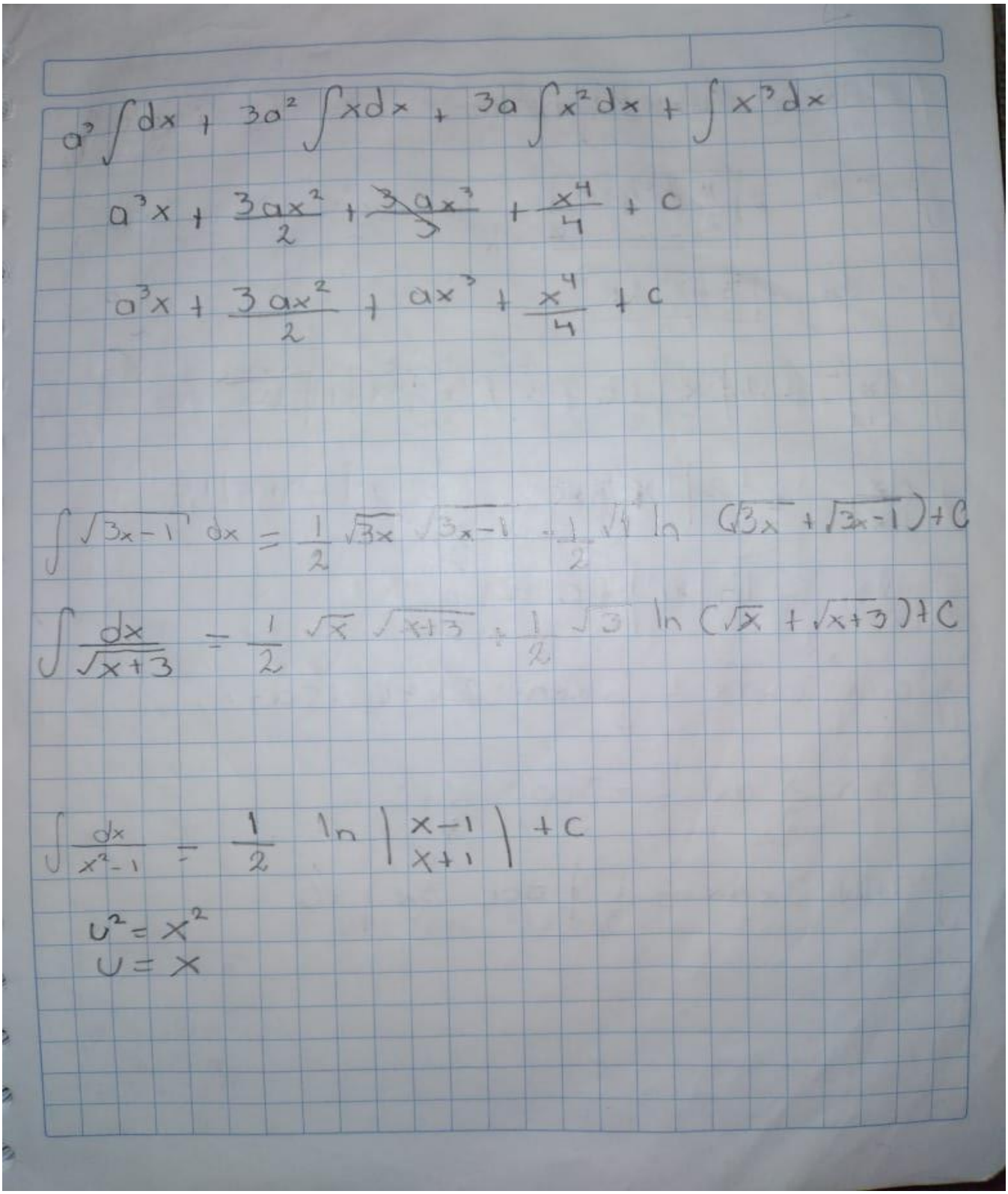
$$\int \left(x^{-1/2} + 2x^{1/2} + x^{3/2}\right) dx$$

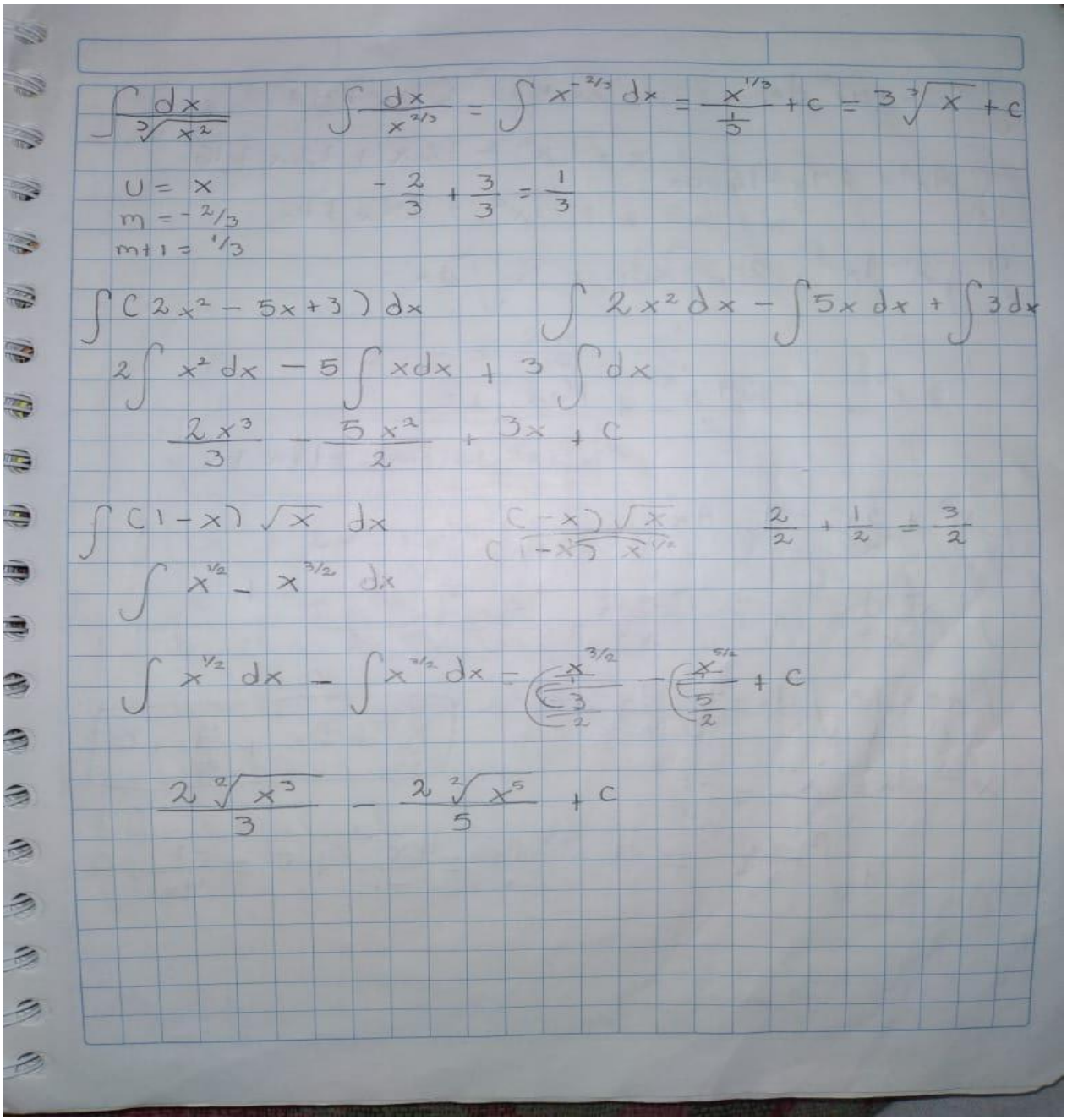
$$\frac{x^{1/2}}{1/2} + \frac{2x^{3/2}}{3/2} + \frac{x^{5/2}}{5/2} + C$$

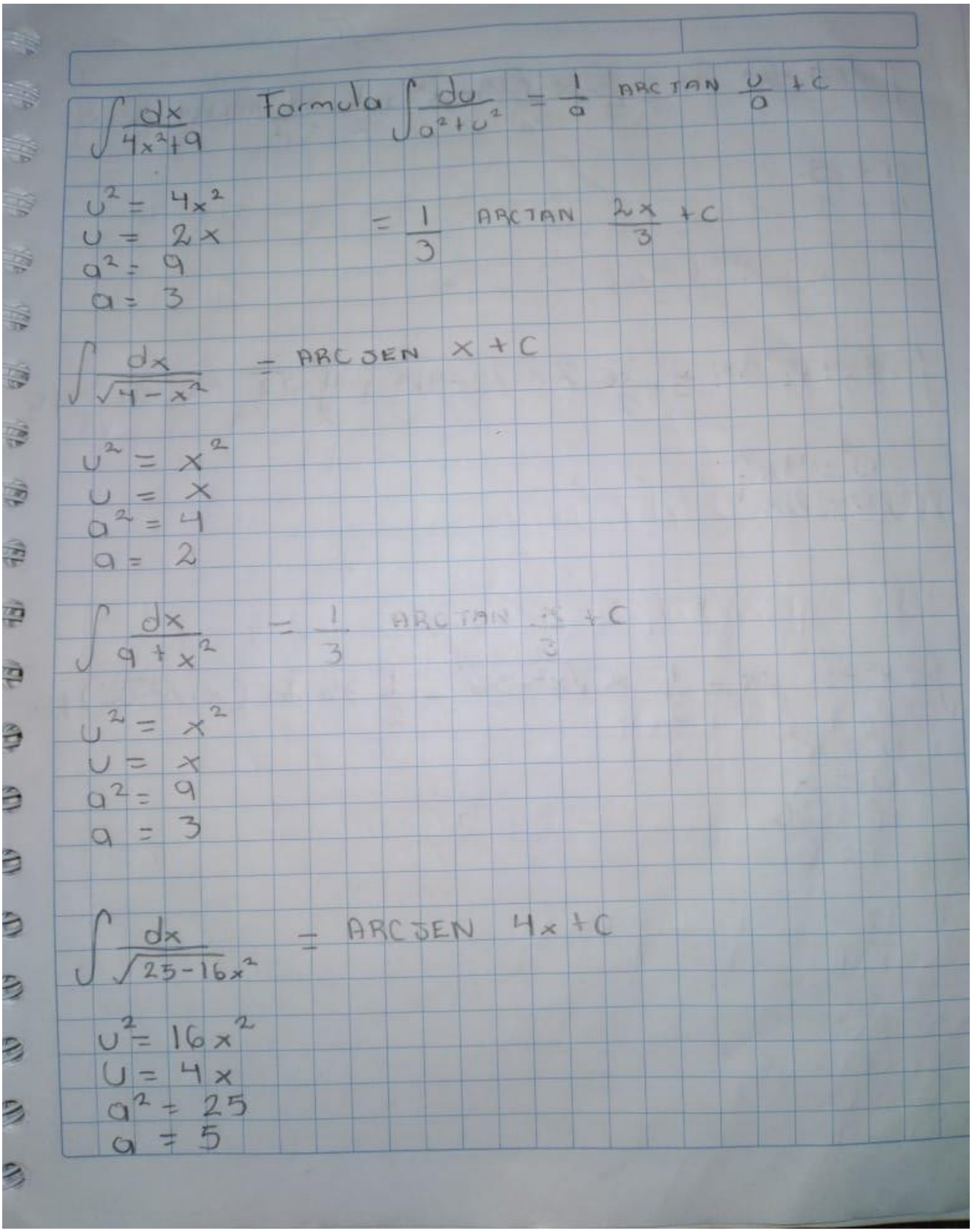
$$2\sqrt{x} + \tfrac{3}{4}\sqrt{x^3} + \frac{2\sqrt{x^5}}{5} + C$$

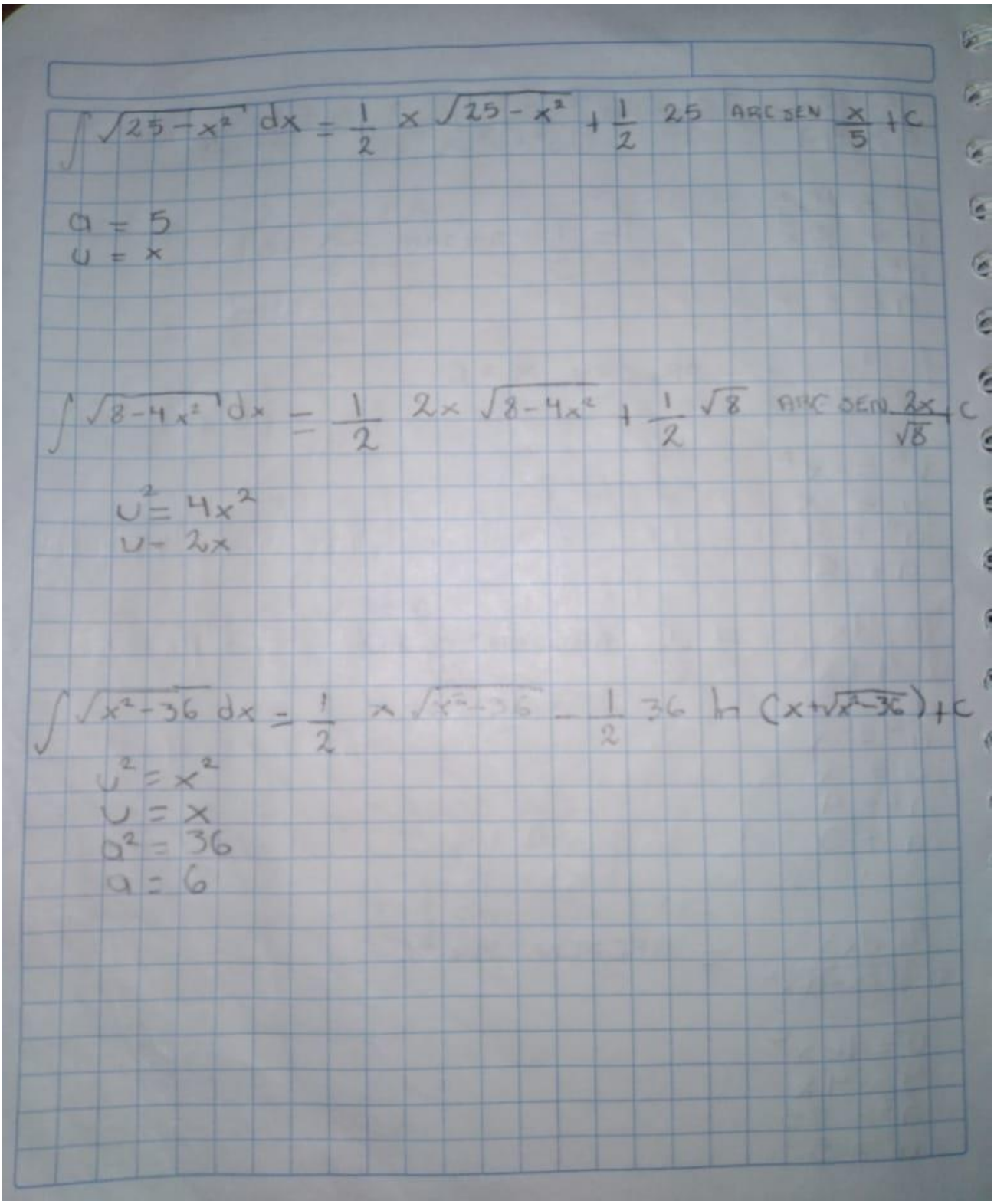

$\int (3x+4)^2 dx$
$(3x+4)(3x+4)$
$9x^2+12x+12x+16$
$9x^2+24x+16$
$\int 9x^2+24x+16\,dx$
$9\int x^2dx + 24\int x dx + 16\int dx$
$\frac{9x^3}{3} + \frac{24x^2}{2} + 16x + C$
$3x^3+12x^2+16x+C$
$\int \frac{x^3+5x^2-4}{x^2}\,dx$
$\int \frac{x^3\,dx}{x^2} + 5\int \frac{x^2dx}{x^2} - 4\int \frac{dx}{x^2}$
$\int x dx + 5\int dx - 4\int \frac{dx}{x^2}$
$\frac{x^2}{2}+5x+\frac{4}{x}+C$
$x^{-2}\,dx = \frac{x^{-1}}{-1} = \frac{-1}{x}$
$4\int \frac{dx}{x^2} = 4\,x^{-2}dx = \frac{4x^{-1}}{-1} + C = \frac{-1}{4x} + C$

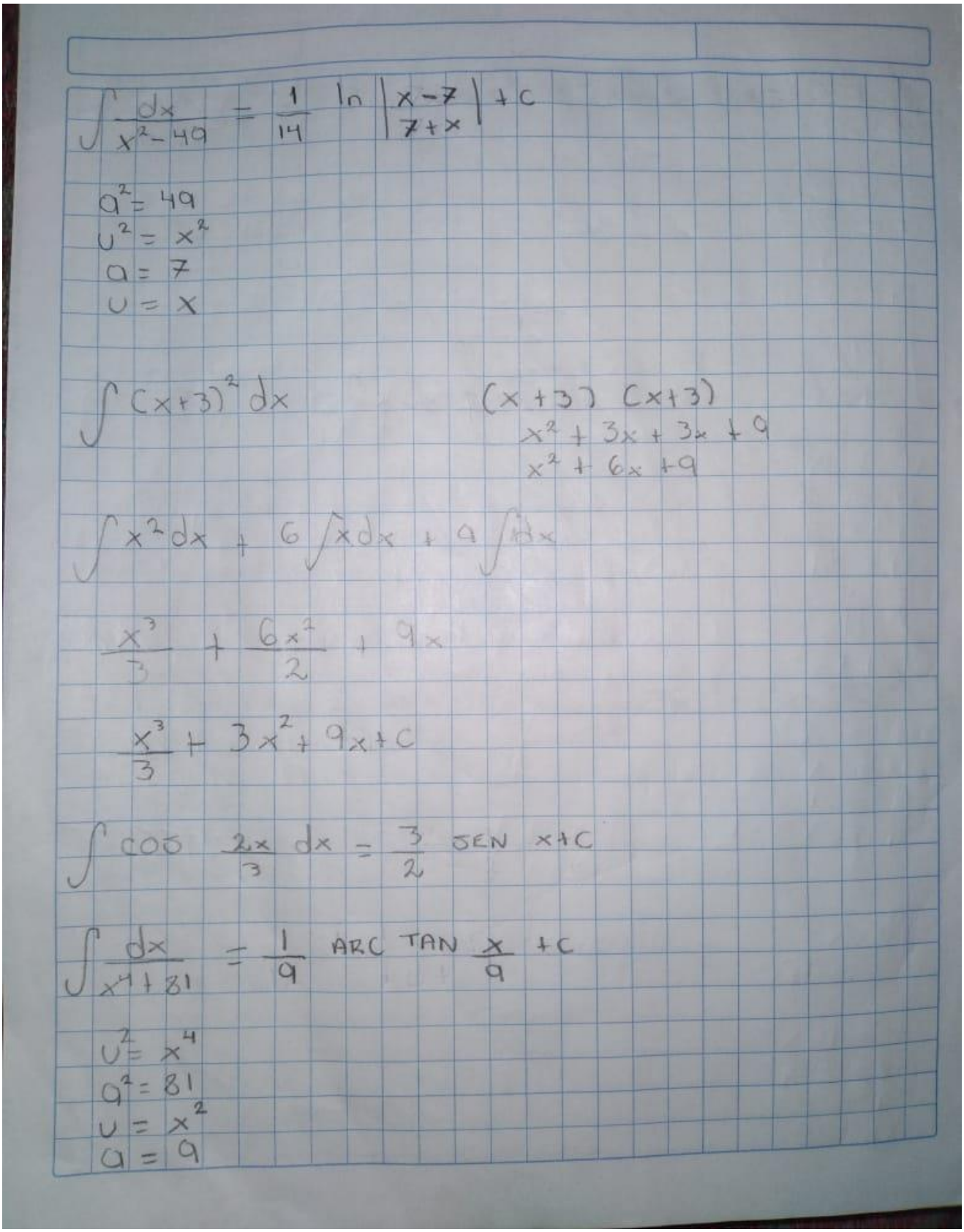

$\int \left(\sqrt{x} - \frac{1}{2}x + \frac{2}{\sqrt{x}}\right) dx$
$\int x^{1/2} - \frac{1}{2}x + 2x^{-1/2}\, dx$
$\int x^{1/2}dx - \frac{1}{2}\int x\,dx + 2\int x^{-1/2}dx$
$\int \frac{x^{3/2}}{3/2} - \frac{1}{2}\int \frac{x^2}{2} + 2\int \frac{x^{1/2}}{1/2}$
$\frac{2x^{3/2}}{3} - \frac{1}{2}\cdot\frac{x^2}{2} + 4x^{1/2}$
$\frac{2}{3}\sqrt{x^3} - \frac{x^2}{4} + 4\sqrt{x} + C$
$\int (a+x)^3\, dx$
$(a+x)(a+x)(a+x)$
$(a^2 + ax + xa + x^2)(a+x)$
$(a^2 + 2ax + x^2)(a+x)$
$a^3 + a^2x + 2a^2x + 2ax^2 + x^2a + x^3$
$a^3 + 3a^2x + 3ax^2 + x^3$

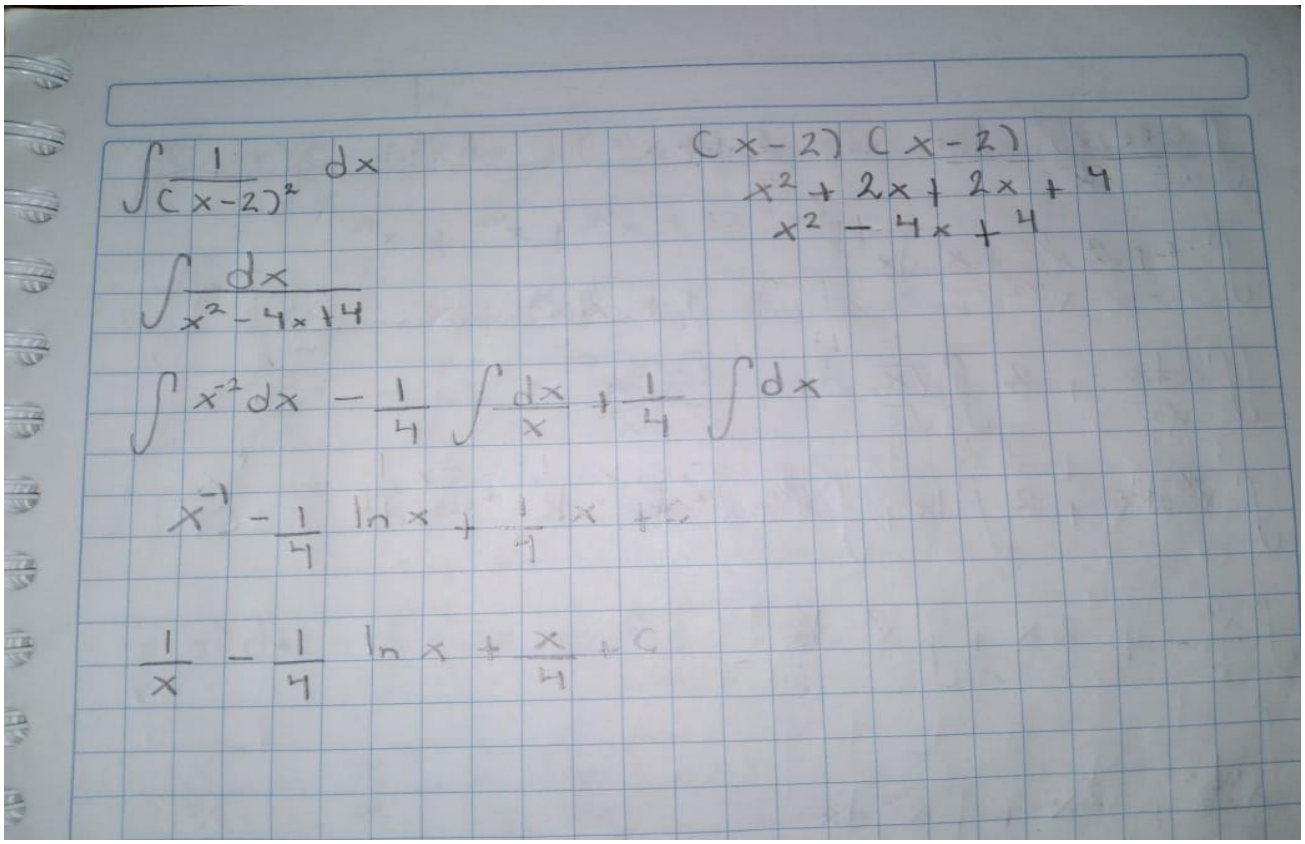

$a^3\int dx + 3a^2\int x\,dx + 3a\int x^2\,dx + \int x^3\,dx$
$a^3x + \frac{3ax^2}{2} + \frac{3ax^3}{3} + \frac{x^4}{4} + c$
$a^3x + \frac{3ax^2}{2} + ax^3 + \frac{x^4}{4} + c$
$\int \sqrt{3x-1}\,dx = \frac{1}{2}\sqrt{3x}\sqrt{3x-1} - \frac{1}{2}\sqrt{1}\ln(\sqrt{3x} + \sqrt{3x-1}) + C$
$\int \frac{dx}{\sqrt{x+3}} = \frac{1}{2}\sqrt{x}\sqrt{x+3} + \frac{1}{2}\sqrt{3}\ln(\sqrt{x} + \sqrt{x+3}) + C$
$\int \frac{dx}{x^2-1} = \frac{1}{2}\ln\left|\frac{x-1}{x+1}\right| + C$
$u^2 = x^2$
$u = x$

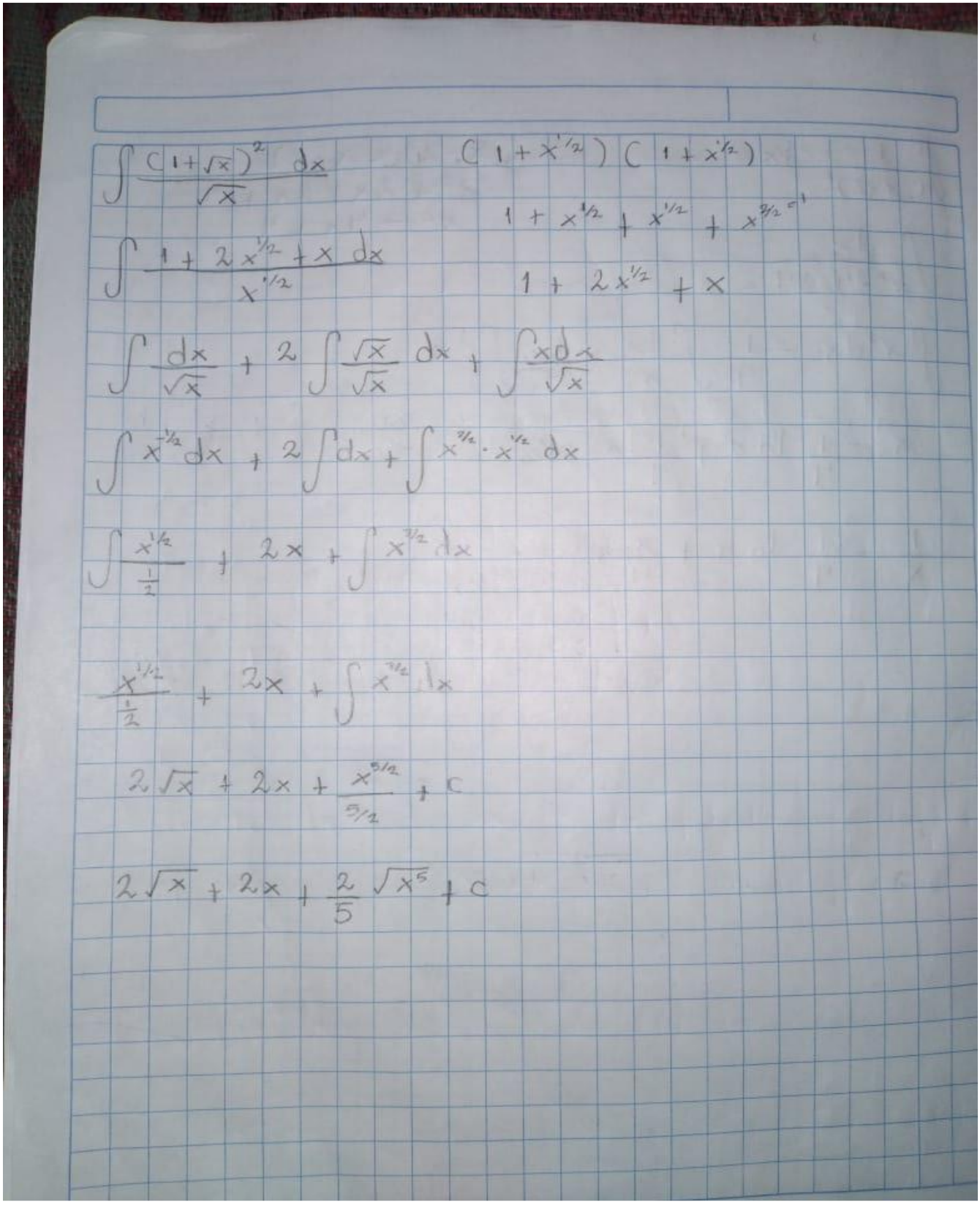

$\int \frac{dx}{\sqrt[3]{x^2}}$
$\int \frac{dx}{x^{2/3}} = \int x^{-2/3}\,dx = \frac{x^{1/3}}{\frac{1}{3}} + c = 3\sqrt[3]{x} + c$
$u = x$
$m = -2/3$
$m+1 = 1/3$
$-\frac{2}{3} + \frac{3}{3} = \frac{1}{3}$
$\int (2x^2 - 5x + 3)\,dx$
$\int 2x^2\,dx - \int 5x\,dx + \int 3\,dx$
$2\int x^2\,dx - 5\int x\,dx + 3\int dx$
$\frac{2x^3}{3} - \frac{5x^2}{2} + 3x + c$
$\int (1-x)\sqrt{x}\,dx$
$(1-x)\sqrt{x}$
$(1-x)\sqrt{x}\cdot x^{1/2}$
$\frac{2}{2} + \frac{1}{2} = \frac{3}{2}$
$\int x^{1/2} - x^{3/2}\,dx$
$\int x^{1/2}\,dx - \int x^{3/2}\,dx = \frac{x^{3/2}}{\frac{3}{2}} - \frac{x^{5/2}}{\frac{5}{2}} + c$
$\frac{2\sqrt[2]{x^3}}{3} - \frac{2\sqrt[2]{x^5}}{5} + c$

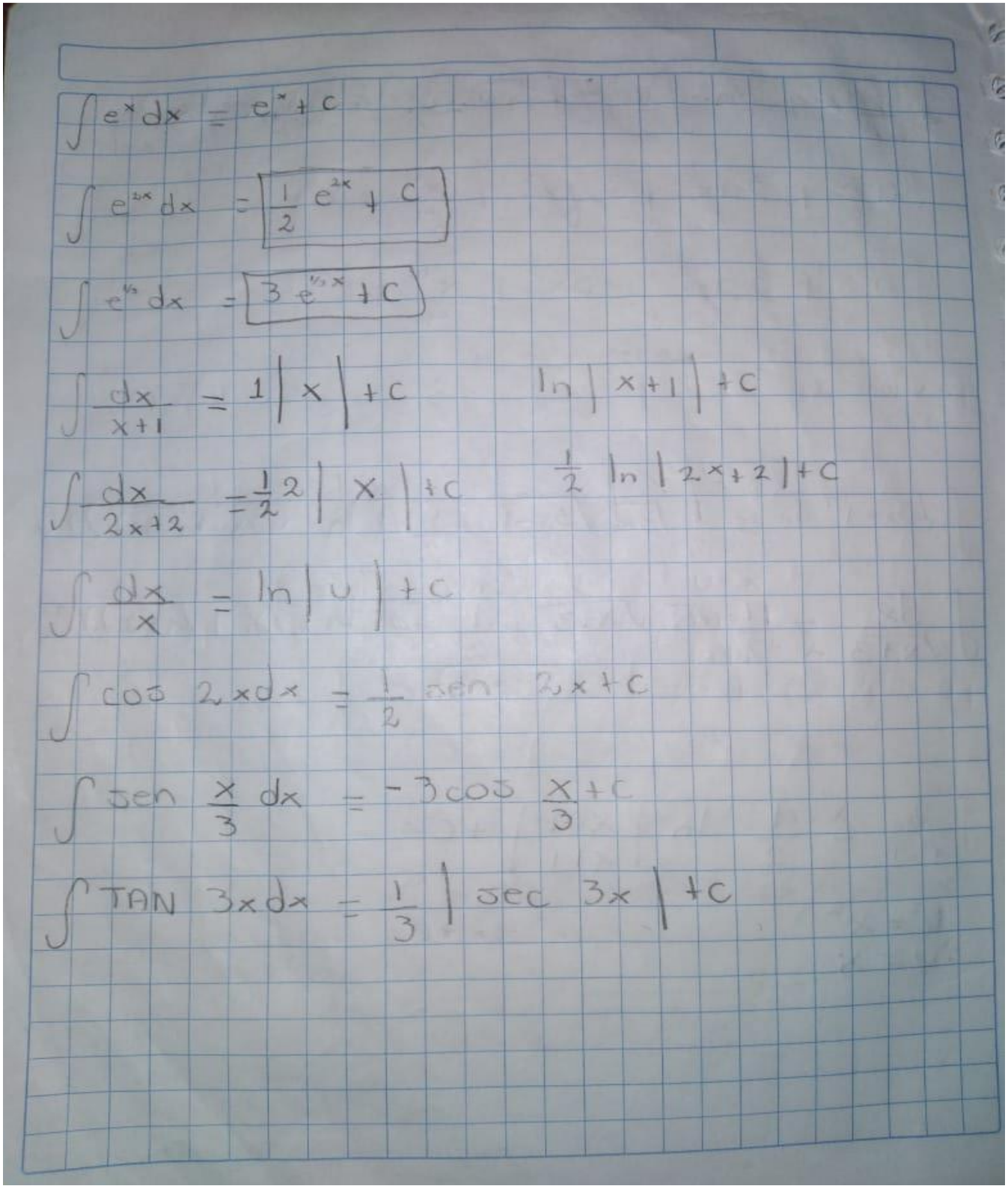

$\int \frac{dx}{4x^2+9}$ Formula $\int \frac{du}{a^2+u^2} = \frac{1}{a}$ ARCTAN $\frac{u}{a}$ + C
$u^2 = 4x^2$
$u = 2x$
$a^2 = 9$
$a = 3$
$= \frac{1}{3}$ ARCTAN $\frac{2x}{3}$ + C
$\int \frac{dx}{\sqrt{4-x^2}}$ = ARCSEN x + C
$u^2 = x^2$
$u = x$
$a^2 = 4$
$a = 2$
$\int \frac{dx}{9+x^2} = \frac{1}{3}$ ARCTAN $\frac{x}{3}$ + C
$u^2 = x^2$
$u = x$
$a^2 = 9$
$a = 3$
$\int \frac{dx}{\sqrt{25-16x^2}}$ = ARCSEN 4x + C
$u^2 = 16x^2$
$u = 4x$
$a^2 = 25$
$a = 5$

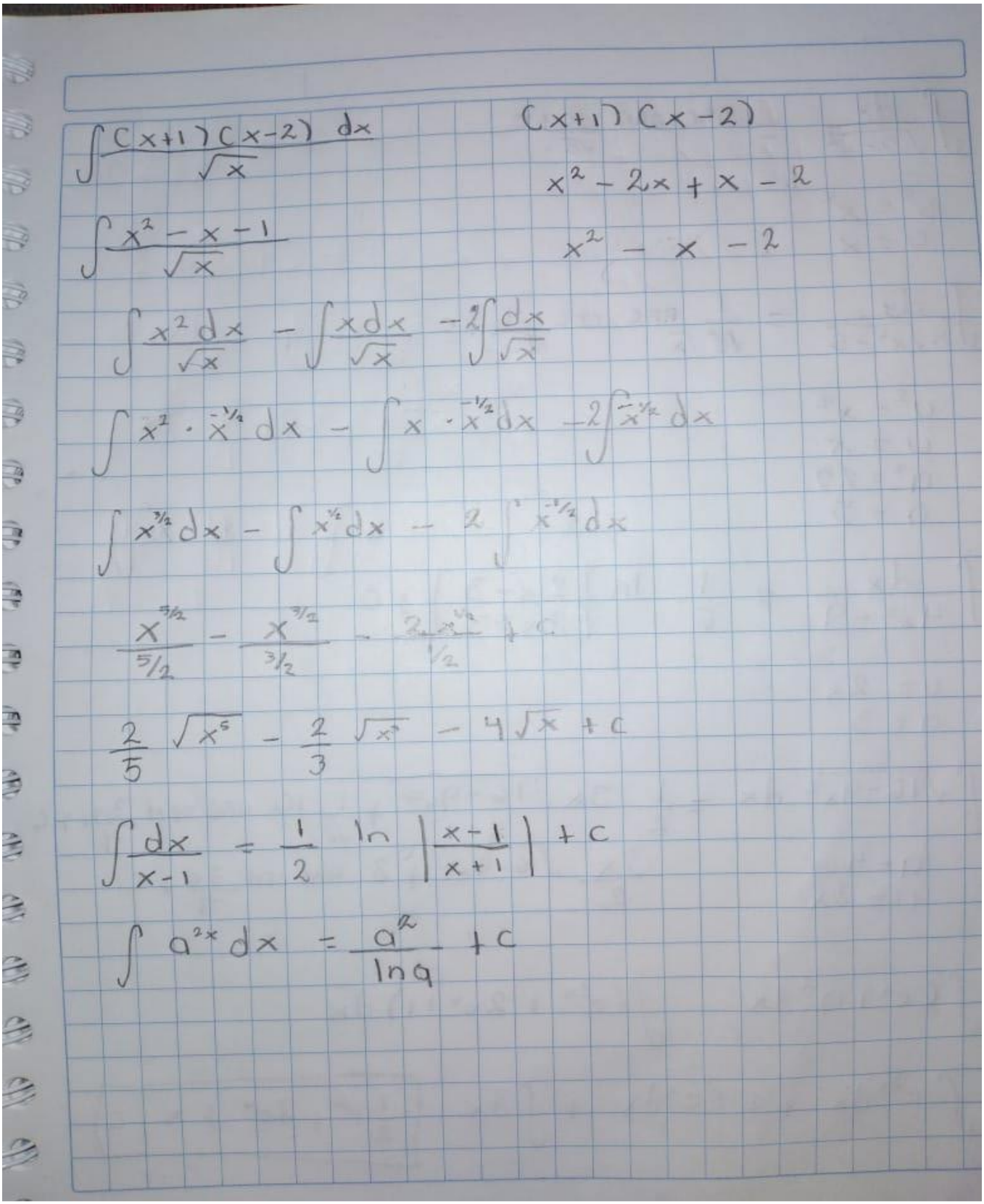

$\int \sqrt{25-x^2}\,dx = \frac{1}{2} x \sqrt{25-x^2} + \frac{1}{2} 25 \text{ ARC SEN } \frac{x}{5} + C$
$a = 5$
$u = x$
$\int \sqrt{8-4x^2}\,dx = \frac{1}{2} 2x \sqrt{8-4x^2} + \frac{1}{2} \sqrt{8} \text{ ARC SEN } \frac{2x}{\sqrt{8}} + C$
$u^2 = 4x^2$
$u = 2x$
$\int \sqrt{x^2-36}\,dx = \frac{1}{2} x \sqrt{x^2-36} - \frac{1}{2} 36 \ln (x+\sqrt{x^2-36}) + C$
$u^2 = x^2$
$u = x$
$a^2 = 36$
$a = 6$

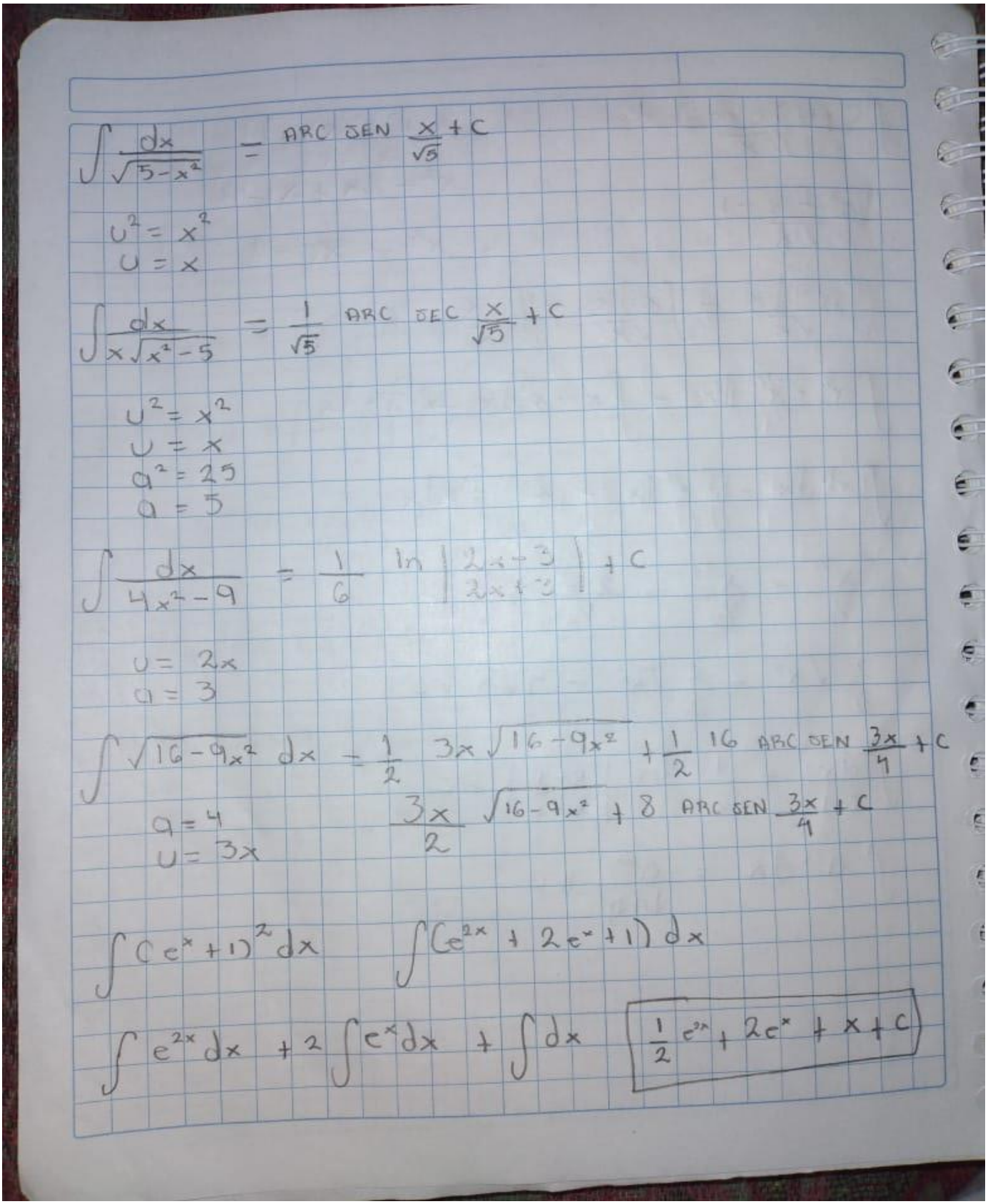

$\int \frac{dx}{x^2-49} = \frac{1}{14} \ln \left| \frac{x-7}{7+x} \right| + C$
$a^2 = 49$
$u^2 = x^2$
$a = 7$
$u = x$
$\int (x+3)^2 dx$
$(x+3)(x+3)$
$x^2 + 3x + 3x + 9$
$x^2 + 6x + 9$
$\int x^2 dx + 6\int x dx + 9\int dx$
$\frac{x^3}{3} + \frac{6x^2}{2} + 9x$
$\frac{x^3}{3} + 3x^2 + 9x + C$
$\int \cos \frac{2x}{3} dx = \frac{3}{2} \text{SEN } x + C$
$\int \frac{dx}{x^4+81} = \frac{1}{9} \text{ARC TAN } \frac{x}{9} + C$
$u^2 = x^4$
$a^2 = 81$
$u = x^2$
$a = 9$


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


$\int \frac{(1+\sqrt{x})^2}{\sqrt{x}}\,dx$
$(1+x^{1/2})(1+x^{1/2})$
$1 + x^{1/2} + x^{1/2} + x^{2/2-1}$
$\int \frac{1+2x^{1/2}+x\,dx}{x^{1/2}}$
$1 + 2x^{1/2} + x$
$\int \frac{dx}{\sqrt{x}} + 2\int \frac{\sqrt{x}}{\sqrt{x}}\,dx + \int \frac{x\,dx}{\sqrt{x}}$
$\int x^{-1/2}\,dx + 2\int dx + \int x^{2/2}\cdot x^{1/2}\,dx$
$\int \frac{x^{1/2}}{\frac{1}{2}} + 2x + \int x^{3/2}\,dx$
$\frac{x^{1/2}}{\frac{1}{2}} + 2x + \int x^{3/2}\,dx$
$2\sqrt{x} + 2x + \frac{x^{5/2}}{5/2} + c$
$2\sqrt{x} + 2x + \frac{2}{5}\sqrt{x^5} + c$


$\int e^x dx = e^x + C$
$\int e^{2x} dx = \frac{1}{2} e^{2x} + C$
$\int e^{\frac{1}{3}x} dx = 3 e^{\frac{1}{3}x} + C$
$\int \frac{dx}{x+1} = 1|x| + C$
$\ln|x+1| + C$
$\int \frac{dx}{2x+2} = \frac{1}{2} 2|x| + C$
$\frac{1}{2} \ln|2x+2| + C$
$\int \frac{dx}{x} = \ln|u| + C$
$\int \cos 2x dx = \frac{1}{2} \operatorname{sen} 2x + C$
$\int \operatorname{sen} \frac{x}{3} dx = -3 \cos \frac{x}{3} + C$
$\int \tan 3x dx = \frac{1}{3} |\sec 3x| + C$


$\int \frac{(x+1)(x-2)\,dx}{\sqrt{x}}$
$(x+1)(x-2)$
$x^2 - 2x + x - 2$
$x^2 - x - 2$
$\int \frac{x^2-x-1}{\sqrt{x}}$
$\int \frac{x^2\,dx}{\sqrt{x}} - \int \frac{x\,dx}{\sqrt{x}} - 2\int \frac{dx}{\sqrt{x}}$
$\int x^2 \cdot x^{-1/2}\,dx - \int x \cdot x^{-1/2}\,dx - 2\int x^{-1/2}\,dx$
$\int x^{3/2}\,dx - \int x^{1/2}\,dx - 2\int x^{-1/2}\,dx$
$\frac{x^{5/2}}{5/2} - \frac{x^{3/2}}{3/2} - \frac{2x^{1/2}}{1/2} + C$
$\frac{2}{5}\sqrt{x^5} - \frac{2}{3}\sqrt{x^3} - 4\sqrt{x} + C$
$\int \frac{dx}{x-1} = \frac{1}{2}\ln\left|\frac{x-1}{x+1}\right| + C$
$\int a^{2x}\,dx = \frac{a^2}{\ln a} + C$


$\int \frac{dx}{\sqrt{5-x^2}} = \text{ARC SEN } \frac{x}{\sqrt{5}} + C$
$u^2 = x^2$
$u = x$
$\int \frac{dx}{x\sqrt{x^2-5}} = \frac{1}{\sqrt{5}} \text{ ARC SEC } \frac{x}{\sqrt{5}} + C$
$u^2 = x^2$
$u = x$
$a^2 = 25$
$a = 5$
$\int \frac{dx}{4x^2-9} = \frac{1}{6} \ln \left| \frac{2x-3}{2x+3} \right| + C$
$u = 2x$
$a = 3$
$\int \sqrt{16-9x^2}\, dx = \frac{1}{2} 3x\sqrt{16-9x^2} + \frac{1}{2} 16 \text{ ARC SEN } \frac{3x}{4} + C$
$a = 4$
$u = 3x$
$\frac{3x}{2}\sqrt{16-9x^2} + 8 \text{ ARC SEN } \frac{3x}{4} + C$
$\int (e^x + 1)^2 dx \quad \int (e^{2x} + 2e^x + 1)\, dx$
$\int e^{2x} dx + 2\int e^x dx + \int dx \quad \frac{1}{2}e^{2x} + 2e^x + x + C$