Integrales Louters.

1.
$$\int x^5 dx = \frac{x^6}{6} + C$$
 $^2 \int x^{3/2} dx = \frac{2}{5}x^{5/2} + C$

3.
$$\int x \sqrt{x} \, dx = \int x^{3/2} \, dx - \frac{2}{5} x^{5/2} + C$$

4.
$$\int \frac{dx}{x^3} : \int x^{-3} dx = \frac{x^{-2}}{-2} + C = -\frac{1}{2x^2} + C$$

5.
$$\int \frac{x^3 + 4x^2 - 3}{x^2} dx = \int \left(\frac{x^3}{x^2} + \frac{4x^2}{x^2} - \frac{3}{x^2}\right) dx$$

$$= \int \left(x + 4 - \frac{3}{x^2} \right) J_x = \frac{x^2}{2} + 4x + \frac{3}{x} + C$$

6.
$$\int_{3}^{3} \int_{z}^{2} dz = \int_{4}^{2} \int_{4}^{2} \int_{4}^{2} = \frac{3}{4} \int_{4}^{2} \int_{4}^$$

$$2. \int (x+3)^2 dx = \int (x^2 + 6x + q) dx$$

$$\frac{x^3}{3} + 3x^2 + qx + C$$

8.
$$\int (4x^3 + 3x^2 + 1)dx = \frac{4}{4}x^4 + \frac{3}{5}x^3 + x + c$$

$$q. \int (\chi - 1)^{2} d\chi = \int (\chi^{2} - 2\chi + 1) d\chi = \frac{\chi^{3}}{3} - \frac{2\chi^{2}}{2} + \chi + C$$

$$= \frac{\chi^{3}}{3} - \chi^{2} + \chi + C$$

10.
$$\int \left(4 \times^{1/2} - 2 \times^{2/3}\right) dx = 4 \cdot \frac{2}{3} \times^{3/2} - 2 \cdot \frac{3}{5} \times^{5/3} + C$$
$$= \frac{8}{3} \times^{3/2} - \frac{6}{5} \times^{6/3} + C$$

11.
$$\int x(x-1) dx = \int (x^2 - x) dx = \frac{x^3}{3} - \frac{x^2}{2} + c$$

12.
$$\int (2x + 3)^2 dx = \int (4x^2 + 12x + q) dx = \frac{4}{3}x^3 + 6x^2 + 9x + C$$

13.
$$\int (x^3 - \sqrt{x}) dx = \int (x^3 - x^{1/2}) dx = \frac{x^4 - 2}{4} x^{3/2} + C$$

14.
$$\int \frac{x^{2/3} - x^{1/2}}{x^{1/3}} dx = \int \left(\frac{x^{2/3}}{x^{1/3}} - \frac{x^{1/2}}{x^{1/3}}\right) dx = \int \left(x^{1/3} - x^{4/6}\right) dx$$
Ohs $\frac{z - 1 - 1}{z^{1/3}} = \frac{6 - z}{z^{1/3}} = \frac{4}{z^{1/3}}$

Ohs:
$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3} = \frac{1}{3} = \frac{6 - 2}{6} = \frac{4}{6}$$
15. $\int 3^{x} dx = \frac{3^{x}}{4n(3)} + C$

16.
$$\int 2e^{x} dx = 2e^{x} + C$$

19.
$$\int Sen(x+\pi) dx = \int -Sin(x) dx = -\int Sm(x) dx$$

$$Obs: Sin(x+\pi) = -Sm(x) = -(-Cox) + C$$

$$= Cosx + C$$

20.
$$\int Cos\left(x + \frac{\pi}{2} \right) dx$$

17. $\int \frac{dz}{z} = \ln|z| + C$

Obs:
$$Cos(x + \pi/2) = -Sen(x)$$

$$-\left(Sen(x)dx = -\left(-Cosx\right) + C = Cos(x) + C\right)$$

$$\operatorname{sen}(x) \, \mathrm{d}x = -\left(-\operatorname{Co}(x) + C - \operatorname{Co}(x) +$$

21.
$$\int_{2} \operatorname{Sec} x \operatorname{fan} x dx = 2 \int_{2} \frac{1}{\operatorname{Cos} x} \frac{\operatorname{Sen} x}{\operatorname{Cos} x} dx = \int_{2} \frac{\operatorname{Sen} x}{\operatorname{Cos} x} dx$$

$$U = \cos x$$

$$du = -\sin x dx$$

$$-2\int \frac{du}{u^2} = 2\int \overline{u^2} du = \frac{2}{u} + C$$

$$= \frac{2}{\cos x} + C$$

22.
$$\int \frac{3 dx}{\sqrt{1 - x^2}} \cdot 3 \operatorname{arc} \operatorname{Sin}(x) + C$$
23.
$$\int \frac{1}{\sqrt{1 - x^2}} \operatorname{Csc}(x) \int_{x}^{2} = \int \frac{1}{\sqrt{1 - 2}} \operatorname{Csc}(x) dx = -\frac{1}{\sqrt{1 - 2}} \operatorname{Csc}(x) dx = -\frac{1}{\sqrt{1 - 2}} \operatorname{Csc}(x) dx$$

74.
$$\int_{\chi^{2}(o_{5}(\pi))} Sm(\pi/2) d\chi =$$

23
$$\int \int \frac{1}{2} \left(sc(x) \right)^{2} = \int \frac{1}{4} \left(sc^{2}(x) \right) dx = -\frac{1}{4} \left(cd(x) + c \right)$$
24.

$$\frac{1}{2} \left(\operatorname{sc}(x) \right)^2 = \int \frac{1}{4} \operatorname{Csc}^2(x) \, dx = -\frac{1}{4} \operatorname{Csc}^2(x) \, dx =$$

23
$$\int \left[\frac{1}{2} \operatorname{Csc}(x) \right]^2 = \int \frac{1}{4} \operatorname{Csc}^2(x) dx = -\frac{1}{4} \operatorname{Cot}(x) + C$$

24. $\int \chi^2(\operatorname{os}(\pi) \operatorname{Sm}(\pi/2) dx - \frac{\chi^3}{3} (-1)(1) + C = -\frac{\chi^3}{3} + C$

$$\int_{0}^{2} = \int_{0}^{1} \frac{1}{4} \operatorname{Csc}^{2}(x) dx = -\frac{1}{4} \operatorname{Csc}^{2}(x) dx = -\frac{1}{4$$