A.- Hallar las siguientes integrales inmediatas o integrales por cambio de variable:

1) $\int \frac{2}{\sqrt{x}} \cdot dx = 2\int x^{-1/2} \cdot dx = 2 \cdot \frac{x^{1/2}}{1/2} + C = 4 \cdot \sqrt{x} + C$

2) $\int \frac{(Lnx)^8}{x} \cdot dx = \int (Lnx)^8 \cdot \frac{1}{x} \cdot dx = \frac{(Lnx)^9}{9} + C$

3) $\int \frac{x^2 - x^3 \cdot senx}{x^3} \cdot dx = \int \frac{x^2}{x^3} \cdot dx - \int \frac{x^3 \cdot senx}{x^3} \cdot dx = \int \frac{1}{x} \cdot dx - \int senx \cdot dx = Ln|x| + \cos x + C$

4) $\int \frac{\sqrt[3]{x} + \sqrt{x}}{\sqrt[4]{x}} \cdot dx = \int \frac{x^{1/3}}{x^{1/4}} \cdot dx + \int \frac{x^{1/2}}{x^{1/4}} \cdot dx = \int x^{1/3 - 1/4} \cdot dx + \int x^{1/2 - 1/4} \cdot dx = \int x^{1/12} \cdot dx + \int x^{1/4} \cdot dx =$

$= \frac{x^{13/12}}{13/12} + \frac{x^{5/4}}{5/4} + C = \frac{13 \cdot \sqrt[12]{x^{13}}}{12} + \frac{4 \cdot \sqrt[4]{x^5}}{5} + C$

5) $\int \frac{1+2x}{1+x^2} \cdot dx = \int \frac{1}{1+x^2} \cdot dx + \int \frac{2x}{1+x^2} \cdot dx = \text{arctg}x + Ln(1+x^2) + C$

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

7) $\int x \cdot (3x^2 + 5)^{24} \cdot dx = \frac{1}{6} \cdot \int 6x \cdot (3x^2 + 5)^{24} \cdot dx = \frac{1}{6} \cdot \frac{(3x^2 + 5)^{25}}{25} + C = \frac{(3x^2 + 5)^{25}}{150} + C$

8) $\int \frac{1}{(x-4)^5} \cdot dx = \int (x-4)^{-5} \cdot dx = \frac{(x-4)^{-4}}{-4} + C = -\frac{1}{4 \cdot (x-4)^4} + C$

9) $\int \frac{4x^2}{\sqrt{5 - x^3}} \cdot dx = \frac{4}{-3} \cdot \int -3x^2 \cdot (5 - x^3)^{-1/2} dx = -\frac{4}{3} \cdot \frac{(5 - x^3)^{1/2}}{1/2} + C = -\frac{8 \cdot \sqrt{5 - x^3}}{3} + C$

10) $\int \frac{\cot gx}{sen^2 x} \cdot dx = \int \cot gx \cdot \frac{1}{sen^2 x} \cdot dx = -\int \cot gx \cdot \frac{-1}{sen^2 x} \cdot dx = -\int t \cdot dt = -\frac{t^2}{2} + C = -\frac{\cot g^2 x}{2} + C$

$t = \cot gx \rightarrow dt = -1/sen^2 x \cdot dx$

11) $\int \frac{3x}{x^2 + 5} \cdot dx = \frac{3}{2} \cdot \int \frac{2x}{x^2 + 5} \cdot dx = \frac{3}{2} \cdot Ln(x^2 + 5) + C$

12) $\int \frac{x+1}{x^2 + 2x + 5} \cdot dx = \frac{1}{2} \cdot \int \frac{2x+2}{x^2 + 2x + 5} \cdot dx = \frac{1}{2} \cdot Ln|x^2 + 2x + 5| + C$

13) $\int \frac{5x^2}{sen^2(x^3 + 5)} \cdot dx = \frac{5}{3} \int \frac{3x^2}{sen^2(x^3 + 5)} \cdot dx = \frac{5}{3} \cdot (-\cot g(x^3 + 5)) + C = -\frac{5}{3} \cdot \cot g(x^3 + 5) + C$

14) $\int 3^{-3x+5} \cdot dx = \frac{1}{-3} \cdot \int 3^{-3x+5} \cdot (-3) \cdot dx = -\frac{1}{3} \cdot \frac{3^{-3x+5}}{Ln3} + C = -\frac{3^{-3x+5}}{3 \cdot Ln3} + C$

15) $\int 4x^2 \cdot e^{5x^3 - 3} \cdot dx = \frac{4}{15} \int 15 x^2 \cdot e^{5x^3 - 3} \cdot dx = \frac{4}{15} \cdot e^{5x^3 - 3} + C = \frac{4 e^{5x^3 - 3}}{15} + C$

16) $\int \cos(2x^3 - 5) \cdot 3x^2 \cdot dx = \frac{3}{6} \int \cos(2x^3 - 5) \cdot 6x^2 \cdot dx = \frac{1}{2} \cdot sen(2x^3 - 5) + C = \frac{sen(2x^3 - 5)}{2} + C$

17) $\int (1 + tg^2(2x)) \cdot dx = \frac{1}{2} \cdot \int (1 + tg^2(2x)) \cdot 2 \cdot dx = \frac{1}{2} \cdot tg(2x) + C = \frac{tg(2x)}{2} + C$

18) $\int tg^2 x \cdot dx = \int \left(tg^2 x + 1 - 1\right) \cdot dx = \int \left(tg^2 x + 1\right) \cdot dx - \int 1 \cdot dx = \text{tgx} - \text{x} + \text{C}$

19) $\int \frac{1}{1+9x^2} \cdot dx = \int \frac{1}{1+(3x)^2} \cdot dx = \frac{1}{3} \cdot \int \frac{3}{1+(3x)^2} \cdot dx = \frac{1}{3} \cdot arctg(3x) + \text{C}$

20) $\int \frac{4}{49+x^2} \cdot dx = \int \frac{4/49}{1+x^2/49} \cdot dx = \frac{4}{49} \cdot 7 \cdot \int \frac{1/7}{1+\left(x/7\right)^2} \cdot dx = \frac{4}{7} \cdot arctg\left(\frac{x}{7}\right) + \text{C}$

21) $\int \frac{1}{\sqrt{9-64x^2}} \cdot dx = \int \frac{1/\sqrt{9}}{\sqrt{1-64x^2/9}} \cdot dx = \frac{1}{8} \int \frac{8/3}{\sqrt{1-\left(8x/3\right)^2}} \cdot dx = \frac{1}{8} \cdot arcsen\left(\frac{8x}{3}\right) + \text{C}$

22) $\int \frac{sen\left(1/x\right)}{x^2} \cdot dx = \int sen\left(1/x\right) \cdot \frac{1}{x^2} \cdot dx = -\int sen\left(1/x\right) \cdot \frac{-1}{x^2} \cdot dx = -\left(-\cos\left(\frac{1}{x}\right)\right) + \text{C} = \cos\left(\frac{1}{x}\right) + \text{C}$

23) $\int \frac{\cos\left(\sqrt{x}\right)}{3 \cdot \sqrt{x}} \cdot dx = \int \cos\left(\sqrt{x}\right) \cdot \frac{1}{3 \cdot \sqrt{x}} \cdot dx = \frac{2}{3} \cdot \int \cos\left(\sqrt{x}\right) \cdot \frac{1}{2 \cdot \sqrt{x}} \cdot dx = \frac{2}{3} \cdot sen\left(\sqrt{x}\right) + \text{C}$

24) $\int \frac{x^2}{1+x^6} \cdot dx = \int \frac{x^2}{1+\left(x^3\right)^2} \cdot dx = \frac{1}{3} \cdot \int \frac{3x^2}{1+\left(x^3\right)^2} \cdot dx = \frac{1}{3} \cdot arctg\left(x^3\right) + \text{C}$

25) $\int \frac{4x}{\cos^2\left(5x^2-1\right)} \cdot dx = \frac{4}{10} \cdot \int \frac{10x}{\cos^2\left(5x^2-1\right)} \cdot dx = \frac{2}{5} \cdot tg\left(5x^2-1\right) + \text{C}$