

1.- Calcular las siguientes integrales haciendo uso de una técnica apropiada.

$$1. \int \frac{x}{3 + \sqrt{x}} dx$$

$$2. \int \frac{1}{\sqrt[3]{x} - x} dx$$

$$3. \int \frac{1}{x\sqrt{1+4x}} dx$$

$$4. \int x(1+x)^{2/3} dx$$

$$5. \int \frac{\sqrt{1+x}}{1-x} dx$$

$$6. \int \frac{1}{1 + \sqrt[3]{x-2}} dx$$

$$7. \int \frac{1}{3 + \sqrt{x+2}} dx$$

$$8. \int \frac{1}{2\sqrt[3]{x} + \sqrt{x}} dx$$

$$9. \int \frac{1}{\sqrt{2x} - \sqrt{x+4}} dx$$

$$10. \int \frac{1}{(x+1)^{1/2} + (x+1)^{1/4}} dx$$

$$11. \int \frac{x^3}{\sqrt{5x^2+4}} dx$$

$$12. \int \frac{(2x^5 + 3x^2)}{\sqrt{1+x^3}} dx$$

$$13. \int \frac{1}{\sqrt{\sqrt{x}+1}} dx$$

$$14. \int \frac{1}{\sqrt{x}\sqrt[3]{x}(1+\sqrt[3]{x})} dx$$

$$15. \int \frac{1}{\sqrt{x} - \sqrt[4]{x}} dx$$

$$16. \int \frac{\sqrt{x}}{1 + \sqrt[3]{x}} dx$$

$$17. \int \frac{\sqrt{x+1}+1}{\sqrt{x+1}-1} dx$$

$$18. \int \frac{1}{x+x^{4/3}} dx$$

$$19. \int \frac{1}{\sqrt{x} + \sqrt[3]{x}} dx$$

$$20. \int \frac{\sqrt[5]{x^3} + \sqrt[6]{x}}{\sqrt{x}} dx$$

$$21. \int \frac{1}{\sqrt{x-1} + \sqrt{x+1}} dx$$

$$22. \int \frac{\sqrt{1-x}}{1-\sqrt{x}} dx$$

$$23. \int \frac{\sin(x) \cos(x)}{4 + \sin^4(x)} dx$$

$$24. \int \frac{1}{\sqrt{5-e^{-2x}}} dx$$

$$25. \int \frac{\cos(x)}{\sqrt{4-\cos^2(x)}} dx$$

$$26. \int \arccos(\sqrt{1-x}) dx$$

$$27. \int \arcsin\left(\sqrt{\frac{x}{x+1}}\right) dx$$

$$28. \int \arcsin(\sqrt{1-4x}) dx$$

$$29. \int e^{-x} \ln(e^x + 1) dx$$

$$30. \int \ln(x^2 + x) dx$$

$$31. \int \frac{e^x + 1}{e^{2x} - 9} dx$$

$$32. \int \frac{e^{2x}}{e^{4x} + 5} dx$$

$$33. \int \frac{(e^x - 2)e^x}{e^x + 1} dx$$

$$34. \int \frac{1}{\sqrt{(1+x^2) \ln(x + \sqrt{1+x^2})}} dx$$

$$35. \int \frac{x \arctan(x)}{\sqrt{1+x^2}} dx$$

$$36. \int \frac{x^2 \arctan(x)}{1+x^2} dx$$

$$37. \int \frac{\arctan(\sqrt{x})}{\sqrt{x}(1+x^2)} dx$$

$$38. \int \frac{x e^{\arctan(x)}}{(1+x^2)^{3/2}} dx$$

$$39. \int \frac{1}{\sqrt{e^{2x} + e^x + 1}} dx$$

$$40. \int \frac{1}{e^{2x} + e^x - 2} dx$$

$$41. \int \frac{\sec^2(x)}{(4 - \tan(x))^{3/2}} dx$$

$$42. \int \frac{e^{-x}}{9e^{-2x} + 1} dx$$

$$43. \int \frac{\ln^3(x)}{x\sqrt{\ln^2(x) - 4}} dx$$

$$44. \int \frac{e^x}{e^{2x} + 8e^x + 7} dx$$

$$45. \int \frac{\sqrt{16 - e^{2x}}}{e^x} dx$$

$$46. \int \frac{\sin(x)}{\cos(x)(1 + \cos^2(x))} dx$$

$$47. \int \frac{1}{e^{2x} - 3e^x} dx$$

$$48. \int \frac{(2 + \tan^2(\theta)) \sec^2(\theta)}{1 + \tan^3(\theta)} d\theta$$

$$49. \int x \cot^2(2x) dx$$

$$50. \int x \sin^2(x) dx$$

$$51. \int x \sin^3(x) dx$$

$$52. \int x^2 \sin^2(x) dx$$

$$53. \int e^x \tan^2(e^x) dx$$

$$54. \int e^x \tan^4(e^x) dx$$

$$55. \int \sin(\sqrt{x}) dx$$



56.  $\int \cos(\sqrt{x}) dx$

62.  $\int \frac{\sec^4(\ln(x))}{x} dx$

68.  $\int \frac{e^x + e^{2x} + e^{3x}}{e^{4x}} dx$

57.  $\int \sqrt{1 + 3 \cos^2(x)} \sin(2x) dx$

63.  $\int (\sec(5x) - \csc(5x))^2 dx$

69.  $\int \frac{\ln^3(x)}{x \sqrt{1 - \ln^4(x)}} dx$

58.  $\int \sqrt{\cos(x)} \sin^3(x) dx$

64.  $\int (\tan(2x) - \cot(2x))^2 dx$

70.  $\int \frac{\ln(\ln(x))}{x \ln(x)} dx$

59.  $\int \frac{\cos^3(3x)}{\sqrt[3]{\sin(3x)}} dx$

65.  $\int \frac{\tan^3(\ln(x)) \sec^6(\ln(x))}{x} dx$

71.  $\int \ln^3(x) dx$

60.  $\int (\sin(3x) - \sin(2x))^2 dx$

66.  $\int \frac{e^{2x}}{\sqrt{e^x + 1}} dx$

72.  $\int x \ln^2(x) dx$

61.  $\int \sin(x) \sin(3x) \sin(5x) dx$

67.  $\int \frac{1 + e^x}{1 - e^x} dx$