

PRACTICE-1

Name _____

Integrate the following:

1. $\int 3x\sqrt{5+x^2} dx$

2. $\int 4\sqrt[3]{x} \ln(x) dx$

3. $\int \arcsin(x) dx$

4. $\int \cos^3(3x) \sin(3x) dx$

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

6. $\int \frac{7x}{\sqrt{1-x^2}} dx$

7. $\int 3x^2 \cos 3x dx$

8. $\int \sin(\sqrt{x}) dx$ (let $u = \sqrt{x}$ so $u^2 = x$)

9. $\int \frac{4}{25-x} dx$

10. $\int \frac{5}{6e^{2x}} dx$

11. $\int \frac{x^3}{1+9x^4} dx$

12. $\int \frac{x}{1+9x^4} dx$

13. $\int x(3^x) dx$

14. $\int \left((x + \sin x)^3 + \cos x(x + \sin x)^3 \right) dx$

$$15. \int 3 \sin^3 x \cos^3 x \, dx$$

$$16. \int x \cos^2(2x) \, dx$$

$$17. \int x^3 \sqrt{1-x^2} \, dx$$

$$18. \int_0^4 \sqrt{25-x^2} \, dx$$

$$19. \int \frac{2x+1}{x^2+5x+6} \, dx$$

$$20. \int \frac{5}{x^2-1} \, dx$$

$$21. \int \frac{6x}{x^2+4x+4} \, dx$$

$$22. \int \frac{x^2-3x+7}{x^3+x} \, dx$$

$$23. \int \frac{3x^2}{x^2-x-12} \, dx$$

$$24. \int \frac{2x^3+x+1}{x^2+9} \, dx$$