

Wallops Anti-differentiation Packet

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

5. $\int x^4 \sin x^5 dx$

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

6. $\int \frac{x}{(1+x)^3} dx$

3. $\int \tan \theta \sec^2 \theta d\theta$

7. $\int e^{\sin x} \cos x dx$

4. $\int \frac{dt}{\sqrt{t}(1+\sqrt{t})^3}$

8. $\int \frac{\sin \theta}{\cos^2 \theta} d\theta$

$$9. \int \frac{(\ln x)^4}{x} dx$$

$$13. \int 4 \cos(6x) dx$$

$$10. \int x^2 \sqrt{2x^3 - 1} dx$$

$$14. \int \frac{x}{\sqrt{2x^2 + 1}} dx$$

$$11. \int \frac{\sin(\ln x)}{x} dx$$

$$15. \int x^2 \sin(4x^3 + 8) dx$$

$$12. \int \sqrt{x+4} dx$$

$$16. \int \frac{x^2}{\sqrt[3]{2x^3 + 7}} dx$$

$$17. \int x^2 e^{4x^3} dx$$

$$20. \int \left[x + \frac{1}{(3x-1)^3} \right] dx$$

$$18. \int \frac{e^{1/x}}{x^2} dx$$

$$21. \int \frac{5x^2}{x^3-2} dx$$

$$19. \int (3x-2)^4 dx$$

$$22. \int \frac{x^2}{x-1} dx$$

$$23. \int \frac{(1+e^t)^2}{e^t} dt$$

$$25. \int \frac{1+\sin x}{\cos x} dx$$

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

$$26. \int \frac{-2x}{\sqrt{x^2-4}} dx$$

$$27. \int \frac{2}{(2x-1)^2 + 4} dx$$

$$29. \int \frac{t}{\sqrt{1-t^4}} dt$$

$$28. \int \frac{1}{x\sqrt{4x^2-1}} dx$$

$$30. \int \frac{\sec^2 x}{4 + \tan^2 x} dx$$

$$31. \int \frac{\tan\left(\frac{2}{t}\right)}{t^2} dt$$

$$33. \int \frac{1}{(x-1)\sqrt{4x^2-8x+3}} dx$$

$$32. \int \frac{3}{\sqrt{6x-x^2}} dx$$

$$34. \int \frac{4}{4x^2+4x+65} dx$$