

Review Worksheet

1. $\int_{-3}^{-2} \frac{dx}{x}$

2. $\int_{-9}^{-4} \frac{dx}{2x}$

3. $\int_{-1}^0 \frac{3dx}{3x-2}$

4. $\int_{-1}^0 \frac{dx}{2x+3}$

5. $\int_3^4 \frac{dx}{x-5}$

6. $\int_2^5 \frac{dx}{1-x}$

7. $\int_0^3 \frac{2xdx}{x^2-25}$

8. $\int_0^1 \frac{8xdx}{4x^2-5}$

9. $\int_0^3 \frac{1}{x+1}$

10. $\int_0^4 \frac{2xdx}{x^2+9}$

11. $\int_0^{\pi} \frac{\sin x}{2-\cos x} dx$

12. $\int_0^{\pi/3} \frac{4\sin x}{1-4\cos x} dx$

13. $\int_1^2 \frac{2\ln x}{x} dx$

14. $\int_3^4 \frac{5\ln x}{x} dx$

15. $\int_0^{\pi/2} \tan\left(\frac{x}{2}\right) dx$

16. $\int_{-\pi/2}^{-\pi/4} \cot x dx$

17. $\int_1^{e^2} \frac{1}{x} dx$

18. $\int_1^e \frac{2}{x} dx$

19. $\int_{\ln 2}^{\ln 3} e^x dx$

20. $\int_{-1}^1 e^{x+1} dx$

21. $\int_{\ln 3}^{\ln 5} e^{2x} dx$

22. $\int_0^{\ln 2} e^{-x} dx$

23. $\int_0^1 (1+e^x)e^x dx$

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

25. $\int_2^4 \frac{1}{x+2} dx$

26. $\int_{-1}^0 \frac{8}{2x+3} dx$

27. $\int_{-1}^1 2xe^{-x^2} dx$

28. $\int_0^1 \frac{x}{4x^2+1} dx$

29. $\int_1^4 \frac{e^{\sqrt{x}}}{2\sqrt{x}} dx$

30. $\int_e^{e^2} \frac{1}{x \ln(x)} dx$

31. $\int 2e^x \cos(e^x) dx$

32. $\int 3e^x \sin(e^x) dx$

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

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

35. $\int \frac{\tan(\sqrt{x})}{\sqrt{x}} dx$

36. $\int \frac{\cot(\sqrt{2x})}{\sqrt{x}} dx$

Find the derivative.

1. $y = (\ln x)^2$

2. $y = \ln(10/x)$

3. $y = \ln(2x+2)$

4. $y = \ln(x^2+1)$

5. $y = x \ln x - x$

6. $y = \sqrt{\frac{x}{x+1}}$

7. $y = \frac{\tan x}{\sqrt{2x+1}}$

8. $y = \frac{x \sin x}{\sqrt{\sec x}}$

9. $y = e^{-x}$

10. $y = e^{-5x}$

11. $y = e^{\frac{2x}{3}}$

12. $y = e^{\frac{x}{4}}$

13. $y = x^2 e^x - e^x$

14. $y = x^2 e^x - x e^x$

15. $y = e^{\sqrt{x}}$

16. $y = e^{(x^2)}$