Antiderivatives 3

1. $f'(x) = e^{2x}$
2. $f'(x) = e^{-2x}$
3. $f'(x) = e^{3x-2}$
4. $f'(x) = e^{4x+5}$
5. $f'(x) = e^{3-5x}$
6. $f'(x) = e^{-3-2x}$
7. $f'(x) = xe^{x^2}$
8. $f'(x) = x^2 e^{x^3}$
9. $f'(x) = x^{-2} e^{x^{-1}}$
10. $f'(x) = x^{-\frac{1}{2}} e^{x^{\frac{1}{2}}}$
11. $f'(x) = \dfrac{3}{x}$
12. $f'(x) = -\dfrac{2}{x}$
13. $f'(x) = \dfrac{1}{x+1}$
14. $f'(x) = \dfrac{2}{x+3}$
15. $f'(x) = \dfrac{1}{1-x}$
16. $f'(x) = \dfrac{1}{2-3x}$
17. $f'(x) = \dfrac{2x}{1+x^2}$
18. $f'(x) = \dfrac{x}{x^2-1}$
19. $f'(x) = \dfrac{x}{1-x^2}$
20. $f'(x) = \dfrac{x^2}{x^3-1}$
21. $\int e^{-5x}\,dx$
22. $\int e^{6x}\,dx$
23. $\int e^{x+4}\,dx$
24. $\int e^{2x-1}\,dx$
25. $\int e^{-x+2}\,dx$
26. $\int e^{-3x+5}\,dx$
27. $\int e^{4x+1}\,dx$
28. $\int xe^{-x^2}\,dx$
29. $\int (x+1)e^{-(x+1)^2}\,dx$
30. $\int x^2 e^{-x^3}\,dx$
31. $\int x^3 e^{x^4+1}\,dx$
32. $\int \dfrac{1}{2-x}\,dx$
33. $\int \dfrac{1}{2x+3}\,dx$
34. $\int \dfrac{x}{x^2-4}\,dx$
35. $\int \dfrac{3x}{x^2+9}\,dx$
36. $\int \dfrac{3x^3}{x^3+8}\,dx$
37. $\int \dfrac{4x^3}{x^4+1}\,dx$
38. $\int \dfrac{x+3}{x^2+6x-7}\,dx$
39. $\int \dfrac{x+3}{x^2+x-6}\,dx$

Answers

1. $f(x) = \dfrac{1}{2}e^{2x} + c$
2. $f(x) = -\dfrac{1}{2}e^{-2x} + c$
3. $f(x) = \dfrac{1}{3}e^{3x-2} + c$
4. $f(x) = \dfrac{1}{4}e^{4x+5} + c$
5. $f'(x) = -\dfrac{1}{3}e^{3-5x} + c$
6. $f(x) = -\dfrac{1}{2}e^{-3-2x} + c$
7. $f(x) = \dfrac{1}{2}e^{x^2} + c$
8. $f(x) = \dfrac{1}{3}e^{x^3} + c$
9. $f(x) = -e^{x^{-1}} + c$
10. $f(x) = 2e^{x^{\frac{1}{2}}} + c$
11. $f(x) = 3\ln x + c$
12. $f(x) = -2\ln x + c$
13. $f(x) = \ln(x+1) + c$
14. $f(x) = 2\ln(x+3) + c$
15. $f(x) = -\ln(1-x) + c$
16. $f(x) = -\dfrac{1}{3}\ln(2-3x) + c$
17. $f(x) = \ln(1+x^2) + c$
18. $f(x) = \dfrac{1}{2}\ln(x^2-1) + c$
19. $f(x) = -\dfrac{1}{2}\ln(1-x^2) + c$
20. $f(x) = \dfrac{1}{3}\ln(x^3-1) + c$
21. $-\dfrac{1}{5}e^{-5x} + c$
22. $\dfrac{1}{6}e^{6x} + c$
23. $e^{x+4} + c$
24. $\dfrac{1}{2}e^{2x-1} + c$
25. $-e^{-x+2} + c$
26. $-\dfrac{1}{3}e^{-3x+5} + c$
27. $\dfrac{1}{4}e^{4x+1} + c$
28. $-\dfrac{1}{2}e^{-x^2} + c$
29. $-\dfrac{1}{2}e^{-(x+1)^2} + c$
30. $-\dfrac{1}{3}e^{-x^3} + c$
31. $\dfrac{1}{4}e^{x^4+1} + c$
32. $-\ln(2-x) + c$
33. $-\dfrac{1}{2}\ln(2x+3) + c$
34. $\dfrac{1}{2}\ln(x^2-4) + c$
35. $\dfrac{3}{2}\ln(x^2+9) + c$
36. $\ln(x^3+8) + c$
37. $\ln(x^4+1) + c$
38. $\dfrac{1}{2}\ln(x^2+6x-7) + c$
39. $\ln(x-2) + c$