
1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

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2: $\frac{d}{dx} \left(\ln x^2 \right)$

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2: $\frac{d}{dx} \left(\ln x^2 \right)$

3: $\frac{d}{dx} \left(\ln e^x \right)$

4: $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$ **2:** $\frac{d}{dx} \left(\ln x^2 \right)$ **3:** $\frac{d}{dx} \left(\ln e^x \right)$ **4:** $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx$$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

2: $\frac{d}{dx} \left(\ln x^2 \right)$

3: $\frac{d}{dx} \left(\ln e^x \right)$

4: $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

6: $\int \frac{\ln x}{x} dx$

7: $\int e^{100x} dx$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

2: $\frac{d}{dx} \left(\ln x^2 \right)$

3: $\frac{d}{dx} \left(\ln e^x \right)$

4: $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

6: $\int \frac{\ln x}{x} dx$

7: $\int e^{100x} dx$

8: $\int e^x \cos(e^x) dx$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$ **2:** $\frac{d}{dx} \left(\ln x^2 \right)$ **3:** $\frac{d}{dx} \left(\ln e^x \right)$ **4:** $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$ **6:** $\int \frac{\ln x}{x} dx$ **7:** $\int e^{100x} dx$ **8:** $\int e^x \cos(e^x) dx$

9: $\frac{d}{dx} \left(x^x \right)$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right)$$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

2: $\frac{d}{dx} \left(\ln x^2 \right)$

3: $\frac{d}{dx} \left(\ln e^x \right)$

4: $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

6: $\int \frac{\ln x}{x} dx$

7: $\int e^{100x} dx$

8: $\int e^x \cos(e^x) dx$

9: $\frac{d}{dx} \left(x^x \right)$

10: $\frac{d}{dx} \left(2^x \right)$

11: $\frac{d}{dx} \left((\ln x)^2 \right)$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

2: $\frac{d}{dx} \left(\ln x^2 \right)$

3: $\frac{d}{dx} \left(\ln e^x \right)$

4: $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

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8: $\int e^x \cos(e^x) dx$

9: $\frac{d}{dx} \left(x^x \right)$

10: $\frac{d}{dx} \left(2^x \right)$

11: $\frac{d}{dx} \left((\ln x)^2 \right)$

12: $\frac{d}{dx} \left(2^{x^2} \right)$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$

2: $\frac{d}{dx} \left(\ln x^2 \right)$

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5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$

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11: $\frac{d}{dx} \left((\ln x)^2 \right)$

12: $\frac{d}{dx} \left(2^{x^2} \right)$

13: $\int \frac{1 + 2x}{1 + x + x^2} dx$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx$$

1: $\frac{d}{dx} \left(\frac{e^x}{x} \right)$ **2:** $\frac{d}{dx} \left(\ln x^2 \right)$ **3:** $\frac{d}{dx} \left(\ln e^x \right)$ **4:** $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$

5: $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$ **6:** $\int \frac{\ln x}{x} dx$ **7:** $\int e^{100x} dx$ **8:** $\int e^x \cos(e^x) dx$

9: $\frac{d}{dx} \left(x^x \right)$ **10:** $\frac{d}{dx} \left(2^x \right)$ **11:** $\frac{d}{dx} \left((\ln x)^2 \right)$ **12:** $\frac{d}{dx} \left(2^{x^2} \right)$

13: $\int \frac{1 + 2x}{1 + x + x^2} dx$ **14:** $\int \left(1 + \frac{1}{x} \right) dx$ **15:** $\int \frac{1}{x + 1} dx$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right)$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right)$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right) \qquad \mathbf{20:} \quad \frac{d}{dx} \left(x \ln 2^x \right)$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right) \qquad \mathbf{20:} \quad \frac{d}{dx} \left(x \ln 2^x \right) \qquad \mathbf{21:} \quad \frac{d}{dx} \left(\ln 3^{-x} \right)$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right) \qquad \mathbf{20:} \quad \frac{d}{dx} \left(x \ln 2^x \right) \qquad \mathbf{21:} \quad \frac{d}{dx} \left(\ln 3^{-x} \right) \qquad \mathbf{22:} \quad \int \ln 3^{-x} dx$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right) \qquad \mathbf{20:} \quad \frac{d}{dx} \left(x \ln 2^x \right) \qquad \mathbf{21:} \quad \frac{d}{dx} \left(\ln 3^{-x} \right) \qquad \mathbf{22:} \quad \int \ln 3^{-x} dx$$

$$\mathbf{23:} \quad \int e^{\ln x} dx$$

$$\mathbf{1:} \quad \frac{d}{dx} \left(\frac{e^x}{x} \right) \qquad \mathbf{2:} \quad \frac{d}{dx} \left(\ln x^2 \right) \qquad \mathbf{3:} \quad \frac{d}{dx} \left(\ln e^x \right) \qquad \mathbf{4:} \quad \frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$$

$$\mathbf{5:} \quad \int \frac{3x^2 + 1}{x^3 + x + 2} dx \qquad \mathbf{6:} \quad \int \frac{\ln x}{x} dx \qquad \mathbf{7:} \quad \int e^{100x} dx \qquad \mathbf{8:} \quad \int e^x \cos(e^x) dx$$

$$\mathbf{9:} \quad \frac{d}{dx} \left(x^x \right) \qquad \mathbf{10:} \quad \frac{d}{dx} \left(2^x \right) \qquad \mathbf{11:} \quad \frac{d}{dx} \left((\ln x)^2 \right) \qquad \mathbf{12:} \quad \frac{d}{dx} \left(2^{x^2} \right)$$

$$\mathbf{13:} \quad \int \frac{1 + 2x}{1 + x + x^2} dx \qquad \mathbf{14:} \quad \int \left(1 + \frac{1}{x} \right) dx \qquad \mathbf{15:} \quad \int \frac{1}{x + 1} dx$$

$$\mathbf{16:} \quad \int e^{\sin x} \cos x dx \qquad \mathbf{17:} \quad \frac{d}{dx} \left(e^{x^2} \right) \qquad \mathbf{18:} \quad \int 3x^2 e^{x^3} dx$$

$$\mathbf{19:} \quad \frac{d}{dx} \left(\frac{x}{e^x} \right) \qquad \mathbf{20:} \quad \frac{d}{dx} \left(x \ln 2^x \right) \qquad \mathbf{21:} \quad \frac{d}{dx} \left(\ln 3^{-x} \right) \qquad \mathbf{22:} \quad \int \ln 3^{-x} dx$$

$$\mathbf{23:} \quad \int e^{\ln x} dx \qquad \mathbf{24:} \quad \int \frac{1}{2x + 5} dx$$

-
- 1:** $\frac{d}{dx} \left(\frac{e^x}{x} \right)$ **2:** $\frac{d}{dx} \left(\ln x^2 \right)$ **3:** $\frac{d}{dx} \left(\ln e^x \right)$ **4:** $\frac{d}{dx} \left(\ln \left(\frac{x^2}{e^x} \right) \right)$
- 5:** $\int \frac{3x^2 + 1}{x^3 + x + 2} dx$ **6:** $\int \frac{\ln x}{x} dx$ **7:** $\int e^{100x} dx$ **8:** $\int e^x \cos(e^x) dx$
- 9:** $\frac{d}{dx} \left(x^x \right)$ **10:** $\frac{d}{dx} \left(2^x \right)$ **11:** $\frac{d}{dx} \left((\ln x)^2 \right)$ **12:** $\frac{d}{dx} \left(2^{x^2} \right)$
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- 19:** $\frac{d}{dx} \left(\frac{x}{e^x} \right)$ **20:** $\frac{d}{dx} \left(x \ln 2^x \right)$ **21:** $\frac{d}{dx} \left(\ln 3^{-x} \right)$ **22:** $\int \ln 3^{-x} dx$
- 23:** $\int e^{\ln x} dx$ **24:** $\int \frac{1}{2x + 5} dx$ **25:** $\int \frac{\cos x}{\sin x} dx$