

Logarithmic and Exponential Substitution

Choose $u = g(x)$, convert the complete differential, integrate in u , then substitute back and include $+ C$.

1.
$$\int \frac{\frac{-4}{3}}{-2 \cdot x} dx$$

$u = -2 \cdot x$

2.
$$\int \frac{3 \cdot e^{-x+2}}{-e^{-x+2}+1} dx$$

$u = -e^{-x+2}+1$

3.
$$\int \frac{3}{2} \cdot e^{3x-1} dx$$

$u = 3x-1$

4.
$$\int \frac{3}{2} \cdot e^{-3x-2} \cdot e^{e^{-3x-2}+1} dx$$

$u = e^{-3x-2}+1$

5.
$$\int \frac{\frac{-1}{2}}{-x-3} \cdot e^{\ln(-x-3)-1} dx$$

$u = \ln(-x-3)-1$

6.
$$\int \frac{-8x+2}{2x^2-x-2} dx$$

$u = 2x^2-x-2$

7.
$$\int \frac{\frac{1}{2}}{-x+3} \cdot \frac{1}{\ln(-x+3)+2} dx$$

$u = \ln(-x+3)+2$

8.
$$\int (2x-2) \cdot e^{x^2-2x+3} dx$$

$u = x^2-2x+3$
