NOTES ON EXPONENTIAL AND LOGARITHM FUNCTIONS

IMPORTANT IDEAS:
$\ln x$ is the inverse of e^x, that is, $e^{\ln x} = x$.

Properties of Logarithm Functions

(1) $\ln(a \cdot b) = \ln a + \ln b$.
(2) $\ln(\frac{a}{b}) = \ln a - \ln b$.
(3) $\ln(a^b) = b \ln a$.

Properties of Exponential Functions

(1) $e^{a+b} = e^a \cdot e^b$.
(2) $e^{a-b} = \frac{a}{b}$.
(3) $(e^a)^b = e^{ab}$