Today

- ln(x) as inverse function for e^x.
- Derivative of ln(x).

What is the definition of the inverse function of $f(x)$?

(A) The function $g(x)$ for which $g(f(x))=x$.

(B) The function whose graph is the mirror image of graph of $f(x)$ in the line $y=x$.

(C) $1/f(x)$

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Let $f(x)=e^x$. Define $\ln(x)$ to be $f^{-1}(x)$.

Which of the following is false?

(A) If $a=e^b$ and $c=e^d$ then $\ln(a/c) = b-d$.

(B) If $a=e^b$ and $c=e^d$ then $\ln(a-c) = b/d$.

(C) If $c=a^d$ then $\ln(c) = d \ln(a)$.

(D) If $a=e^b$ and $c=a^d$ then $\ln(c) = bd$.

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$f(x) = \ln(x)$

--> $f'(x) = 1/x$