Which of the following functions are one-to-one? For each one-to-one function, determine the inverse function.

Function	One-to-One? (Y or N)	Inverse Function
$f(x) = e^{2x}$	Y	$f(x) = \frac{1}{2}\ln x$
$f(x) = e^{-2x}$	Y	$f(x) = -\frac{1}{2}\ln x$
$f(x) = \ln(x+2)$	Y	$f(x) = e^{x} - 2$
$f(x) = 2\ln x$	Y	$f(x) = e^{(\frac{x}{2})}$
$f(x) = \tan^{-1}(x+6) + \frac{\pi}{2}$	Y	$f(x) = \tan(x - \frac{\pi}{2}) - 6$
$f(x) = x^3 + 1$	Y	$f(x) = \sqrt[3]{x-1}$
$f(x) = 1 - x^2$	N	

The following equations involve functions and their inverses. For each, specify the values of x for which the equation is true.

Equation	Correct Values of x
$\ln(e^x) = x$	$-\infty < x < \infty$
$e^{\ln x} = x$	$x > 0$
$\sin(\sin^{-1} x) = x$	$-1 \leq x \leq 1$
$\sin^{-1}(\sin x) = x$	$-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$
$\cos(\cos^{-1} x) = x$	$-1 \leq x \leq 1$
$\cos^{-1}(\cos x) = x$	$0 \leq x \leq \pi$
$\tan(\tan^{-1} x) = x$	$-\infty < x < \infty$
$\tan^{-1}(\tan x) = x$	$-\frac{\pi}{2} < x < \frac{\pi}{2}$