Miscellaneous expressions and definitions.

1.
$$\ln(x) = \int_1^x \frac{dt}{t}$$

2.
e^x is the inverse of $\ln(x)$

3.
$$\frac{d}{dx}\sin^{-1}(x) = \frac{1}{\sqrt{1-x^2}}$$

4.
$$\frac{d}{dx}\cos^{-1}(x) = \frac{-1}{\sqrt{1-x^2}}$$

5.
$$\frac{d}{dx}\tan^{-1}(x) = \frac{1}{1+x^2}$$

6.
$$\cosh(x) = \frac{e^x + e^{-x}}{2}$$

7.
$$\sinh(x) = \frac{e^x - e^{-x}}{2}$$

8.
$$\tanh(x) = \frac{\sinh(x)}{\cosh(x)}$$

9.
$$\cosh^2(x) - \sinh^2(x) = 1$$