

## Keeper 4.6 Virtual Problems

Examples: Find the Derivative

1.  $y = \ln^2 x$

2.  $y = \ln \sqrt{x^2 + 4}$

3.  $y = \sqrt{\ln(x)}$

4.  $y = \ln x^3 + (\ln x)^3$

5.  $y = \ln(\sec x)$

6.  $y = x \ln x$

7.  $y = (\sin x)(\ln x)$

8.  $y = \frac{x^2}{\ln x}$

9.  $y = \ln\left(\frac{5}{5-x}\right)$

10.  $y = \log\left(\frac{\sqrt{x}}{x-5}\right)$

11.  $y = \log_5(\tan 4x^4)$

12.  $y = \ln(3x^2 + 2)^3$

13.  $y = e^{x^2+2x}$

14.  $y = e^{\sqrt{x}}$

15.  $y = 5^x$

16.  $y = e^{e^x}$

17.  $y = xe^x$

18.  $y = \frac{e^x}{x^2}$

19.  $y = 2^x(x^2 + 1)$

20.  $y = 3^{\ln x}$

21.  $y = e^{3x} \cdot 4^{5x}$

22.  $y = x^2e^x - xe^x$