

Derivatives of Ln

Directions: Find the derivative of each of the following functions.

1. $y = \ln(x^2)$

9. $y = \ln(\ln x)$

2. $y = \ln\left(\frac{1}{x}\right)$

10. $y = x \ln x - x$

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

11. $y = \ln \frac{x + 2}{x - 2}$

4. $y = \ln(2 - \cos x)$

12. $y = \ln[7x(x - 3)(x - 2)]$

5. $y = (\ln x)^2$

13. $y = \ln \sqrt{\frac{4x + 1}{5x - 3}}$

6. $y = \ln\left(\frac{10}{x}\right)$

14. $y = \ln \frac{x^2}{(x - 5)^3}$

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

15. $y = \ln\left(\frac{x - 3}{x + 2}\right)^2$

8. $y = \ln(x^2 + 1)$