

Properties of Natural Log and e

Numberbender | WORKSHEET



Name: _____ Date: _____ Score: _____

Simplify each expression using properties of e and ln. Show all work.

Calculus 1 Worksheet #17 Properties of natural log and e

Find simpler expressions for each of the following quantities:

1. $e^{\ln 7.2}$

2. $e^{-\ln x^2}$

3. $e^{\ln x - \ln y}$

4. $e^{\ln(x^2 + y^2)}$

5. $e^{-\ln 0.3}$

6. $e^{\ln \pi x - \ln 2}$

7. $2 \ln \sqrt{x}$

8. $\ln(\ln e^e)$

9. $\ln e^{-x^2 - y^2}$

10. $\ln e^{\sec \theta}$

11. $\ln e^{e^x}$

12. $\ln e^{2 \ln x}$

13. $e^{x + \ln x}$

14. $\ln \left[\frac{e^x}{x} \right]$

15. $\ln(x^e e^x)$

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Answer key — for instructor use only.

ANSWERS:

1. 7.2	2. x^{-2}	3. $\frac{x}{y}$	4. x^2+y^2	5. $\frac{10}{3}$
6. $\frac{\pi x}{2}$	7. $\ln x$	8. 1	9. $-x^2-y^2$	10. $\sec \theta$
11. e^x	12. $\ln x^2$	13. $e^x \bullet x$	14. $x - \ln x$	15. $e \ln x + x$