

7-6B Practice Form G

Natural Logarithms

Write each expression as a single natural logarithm.

4. $\ln z - 3 \ln x$

$\ln \frac{z}{x^3}$

2. $3 \ln 3 + \ln 9$

$\ln 243$

8. $3 \ln a - b \ln 2$

$\ln \frac{a^3}{2^b}$

3. $a \ln 4 - \ln b$

$\ln \frac{4^a}{b}$

6. $4 \ln x + 3 \ln y$

$\ln \frac{x^4 y^3}{1}$

Solve each equation. Check your answers. Round your answer to the nearest hundredth.

19. $\ln e^x = 3$

3

20. $3 \ln e^{2x} = 12$

2

21. $\ln e^{x+5} = 17$

12

25. $\ln(3x + 4) = 5$ 48.14

Use natural logarithms to solve each equation. Round your answer to the nearest hundredth.

40. $e^{2x} = 25$

1.6

41. ~~$e^{5x} = 20$~~



42. ~~$e^{x+2} = 21$~~

e^{x+2}

1.9

43. $e^{x+6} - 5 = 1$

= 4.21