

# Exponential & Logarithmic Functions

## 7A – Natural Logarithms

Use a calculator to find each value to the nearest ten thousandth.

#1)  $\ln 43.2$

#2)  $\ln 0.0217$

#3)  $\ln 985$

#4)  $\ln 0.0076$

#5)  $\ln 10$

#6)  $\ln \frac{1}{0.6}$

#7)  $\operatorname{antiln}(-0.256)$

#8)  $\operatorname{antiln} 4.62$

#9)  $\operatorname{antiln}(-1.62)$

Solve each equation. Round solutions to the nearest hundredth.

#10)  $1500 = 6e^{0.043t}$

#11)  $1249 = 175e^{-0.04t}$

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#12)  $\ln 6.7 = \ln(e^{0.21t})$

#14)  $1600 = 4e^{0.045t}$

#13)  $\ln 724.6 = \ln(e^{6.3t})$

#15)  $10 = 5e^{5k}$

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#16)  $\ln 4.5 = \ln e^{0.031t}$

#18)  $\ln 40.5 = \ln e^{0.21t}$

#17)  $25 = e^{0.075y}$

#19)  $\ln 60.3 = \ln e^{0.21t}$

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#20) Ms. Costanza invested a sum of money in a CD that pays 8% interest compounded continuously. If Ms. Costanza made the investment on January 1, 2009 and the account is worth \$12,000 on January 1, 2013, what was the original amount in the account?

- #1) 3.7658
- #2) -3.8304
- #3) 6.8926
- #4) -4.8796
- #5) 2.3026
- #6) 0.5108
- #7) 0.7741
- #8) 101.4940
- #9) 0.1979
- #10)  $t = 128.41$
- #11)  $t = -49.13$
- #12)  $t = 9.06$
- #13)  $t = 1.05$
- #14) 133.14
- #15) 0.14
- #16) 48.52
- #17) 42.92
- #18) 17.63
- #19) 19.52
- #20) \$8713.79