***e* and Natural Logarithms** – *in book: Section 9.4 p. 581*

Use a calculator to evaluate each expression to the nearest ten thousandth.

1. $e^{2.3}$

2. $e^{4.6}$

3. $\sqrt{e}$

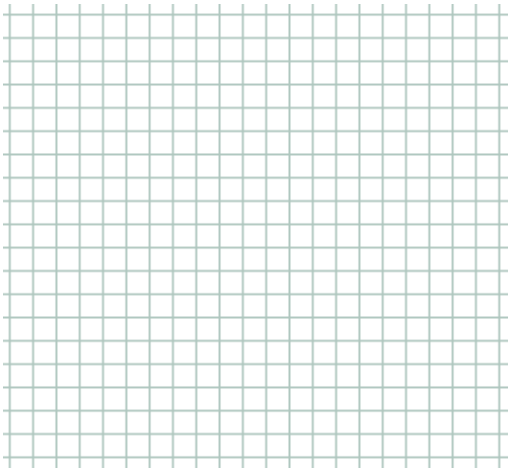
4. $2\sqrt[3]{e^4}$

5. $3\sqrt{e^3}$

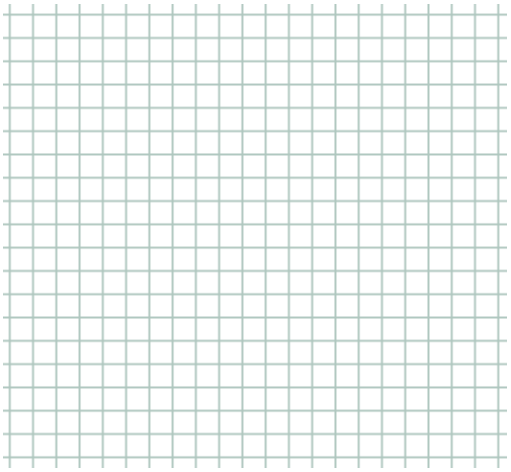
6. e^{-2}

Graph each equation.

7. $y = 2e^{x+1}$



8. $y = -3e^{x}$



Given the original principal, the annual interest rate, the amount of time for each investment, and the type of compound interest, find the amount at the end of the investment.

9. P = \$1250, r = 8.5%, t = 3 years, quarterly

10. P = \$2575, r = 6.25%, t = 5 years 3 months, continuously

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

11. ln 43.2

12. ln 0.0217

13. ln 985

14. ln 0.0076

15. ln 10

16. $\ln \frac{1}{0.6}$

17. antiln (-0.256)

18. antiln 4.62

19. antiln (-1.62)

Solve each equation.

20. $1500 = 6e^{0.043t}$

21. $1249 = 175e^{-0.04t}$

22. $\ln 6.7 = \ln e^{0.21t}$

23. $\ln 724.6 = \ln e^{6.3t}$

24. Jim invested a sum of money in a certificate of deposit that pays 8% interest compounded continuously. Recall that the formula for the amount in an account earning interest compounded continuously is $A = Pe^{rt}$. If Jim made the investment on January 1, 2009 and the account will be worth $12,000 on January 1, 2013, what was the original amount in the account?