

The Number e
Day 2

Name _____
Hour _____

Graph the following functions.

1. $f(x) = e^x$

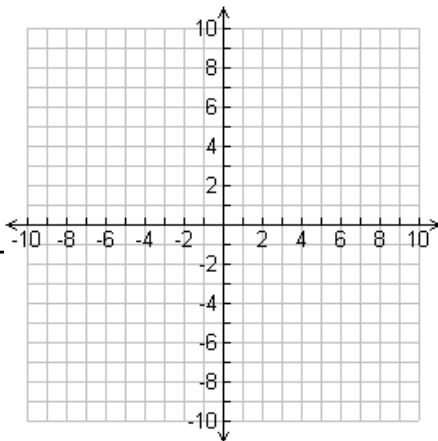
x-int: _____

y-int: _____

Domain: _____

Range: _____

Asymptote: _____



2. $f(x) = e^x + 3$

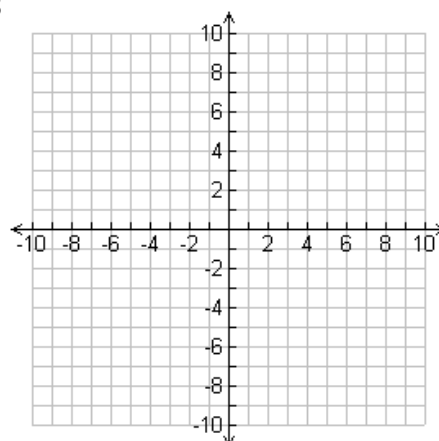
x-int: _____

y-int: _____

Domain: _____

Range: _____

Asymptote: _____



Use your exponent rules to find the following.

3. $e^{2x} \cdot e^{7x}$

4. $(3e^{4m})^3$

5. $\sqrt{25e^8}$

6. $\frac{12e^5}{9e^y}$

7. $\sqrt[3]{64e^{15a}}$

Solve the following problems.

8. You deposit \$150 in an account that pays 6% annual interest compounded continuously. What is the balance after 20 years? $A = Pe^{rt}$

9. Your grandma made a deposit 40 years ago into a savings account that pays 8.5% annual interest compounded continuously. Your grandma just took all the money out and gave it to you today. It totaled \$2,996.41. How much money did your grandma put in the bank 40 years ago?

Decide whether the exponential function is growth or decay.

10. $y = 6\left(\frac{5}{2}\right)^x$

11. $y = 0.7\left(\frac{2}{3}\right)^{-x}$

12. $y = 4(0.9)^x$

13. $y = \frac{4}{9}\left(\frac{7}{3}\right)^{-x}$