

ALGEBRA II REVIEW PROBLEMS

(Chapter 8)

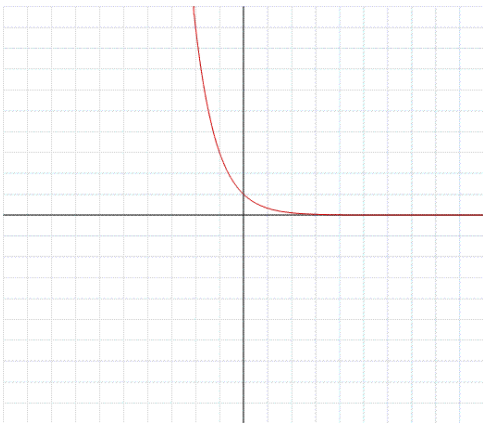
- Write an exponential function of the form $y=ab^x$ whose graph passes through $(-1, 12.5)$ and $(4, 4.096)$.
- Which equation represents exponential decay?
 - $y = 2(1.14)^x$
 - $y = 2(.14)^x$
- Graph the following.
 - $y = \left(\frac{1}{3}\right)^x$
 - $y = \left(\frac{1}{3}\right)^{x-3} + 1$
 - $y = \log_4 x$
 - The inverse of $y = 2x + 4$
- Evaluate the following; round to the nearest ten-thousandth.
 - e^{-2}
 - $e^{\frac{1}{3}}$
- Determine how much money would be in a continuously compounded account if \$5000 was invested for 10 years at an annual interest rate of 6.9%
- If $g(x) = 2x$ and $f(x) = x^2 + 4$, find $(f \circ g)(-3)$
- Write each equation in logarithmic form.
 - $4^5 = 1024$
 - $4^{-3} = \frac{1}{64}$
- Evaluate the following.
 - $\log_5 125$
 - $3\log_3 3 - \log_3 3$
 - $2 \log 5 + \log 4$
 - $-\log_4 \frac{1}{16} - \log_4 64$
- Convert $\log_3 15$ to a logarithm in base 2; round to the nearest ten-thousandth.
- Solve the following; round to the nearest ten-thousandth if necessary.
 - $5^{2x+7} - 1 = 8$
 - $\log(2x + 5) = 3$
 - $5e^{6x+3} = 0.1$
 - $\ln x + \ln 4 = 2$

ANSWERS

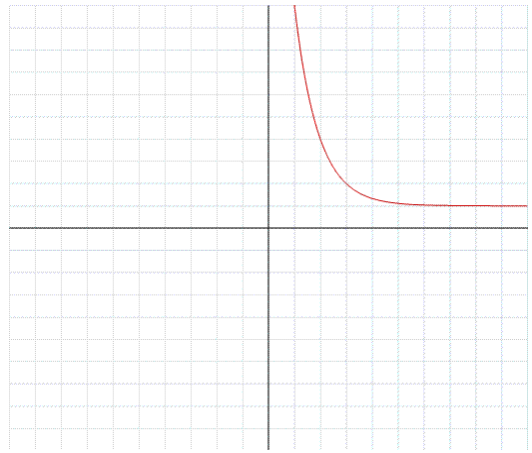
1. $y = 10(.8)^x$

2. b

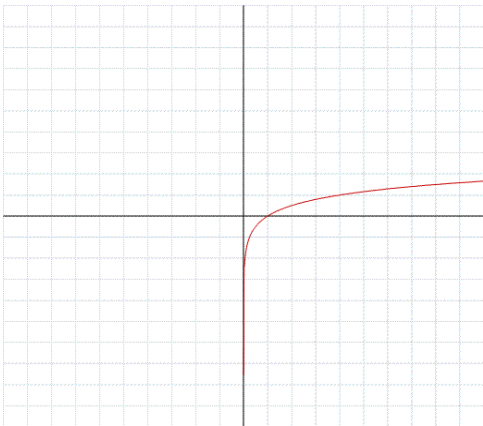
3a.



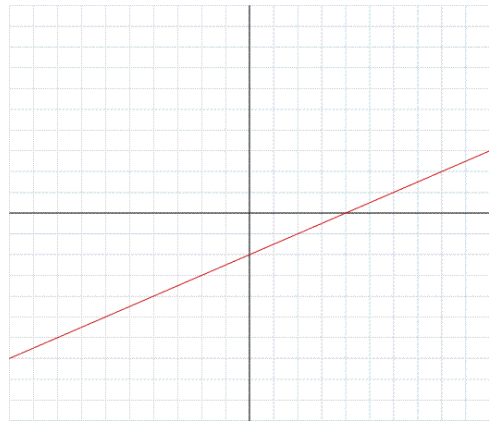
3b.



3c.



3d.



4a. .1353

4b. 1.3956

5. \$9968.58

6. 40

7a. $\log_4 1024 = 5$

7b. $\log_4 \frac{1}{64} = -3$

8a. 3

8b. 2

8c. 2

8d. -1

9. $\log_3 15 = \log_2 5.5212$

10a. $x = -2.8174$

10b. $x = 487.5$

10c. $x = -1.1520$

10d. $x = 1.8473$