

Name:

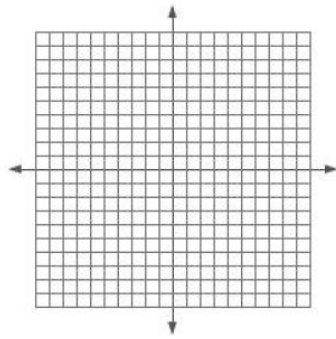
Chapter 4B Practice Test **NO CALCULATORS ALLOWED**

1. Graph the function $y = \log_4 x$. State the domain, range, and asymptote.

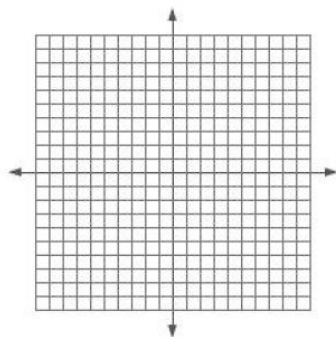
Domain:

Range:

Asymptote:



2. Graph the function $y = \log_2(x+3) - 5$. State domain, range, and asymptote.



3. Evaluate the expression $\log_2 0.25$.
4. Evaluate the expression $\log_{\frac{1}{2}} 8$.
5. Evaluate the expression $\log_2 1$.
6. Evaluate the expression $\ln e^2$.
7. Simplify the expression $\log_2 32$.

8. Simplify the expression $\log \frac{1}{1000}$.
9. Solve the equation $\log_5 x = 4$. Check for extraneous solutions.
10. Solve the equation $10^{x^2+1} = 100,000$. Check for extraneous solutions.
11. Solve the equation $3e^{-x} - 4 = 9$. Check for extraneous solutions.
12. Find the inverse of the function $y = \log_8 x$.
13. Find the inverse of $f(x) = \ln(x-4)$?
14. Condense the expression $\log_4 3 + 3\log_4 2$.
15. Expand the expression $\ln \frac{2y}{x}$.
16. Find the inverse of $f(x) = \ln(x-4)$?
17. Expand $\log \frac{xy^3z^2}{r}$?

Calculators Allowed

18. Solve the equation $\ln(x+5) = \ln(x-1) - \ln(x+1)$. Check for extraneous solutions.

19. Find the value of the expression $\log_8 1000$. Round your result to three decimal places.

20. Find the value of the expression $\log 15$. Round your result to three decimal places.

21. Use the change of base formula to evaluate the expression $\log_7 125$. Round your result to three decimal places.

22. Write an expression that is equivalent to $\log_3 2$?

23. What is the solution of the equation $9^{x+1} = 27^{x-1}$?