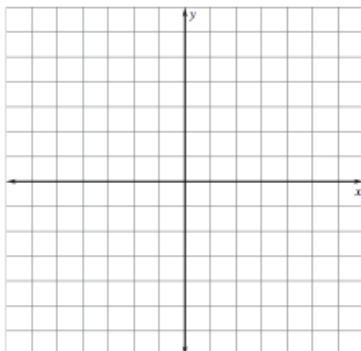


**(1-6) Graph the function. State the domain and range and draw the asymptote.**

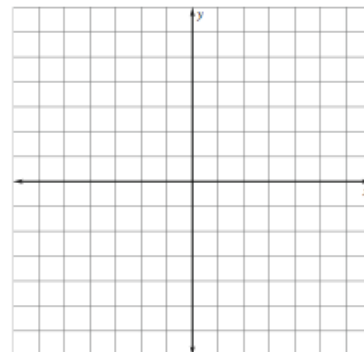
1.  $y = 3\left(\frac{1}{4}\right)^{x+2} + 2$

2.  $y = 3 \cdot 2^{x-2} - 1$

x	y



x	y



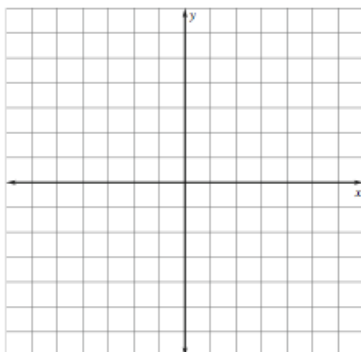
Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

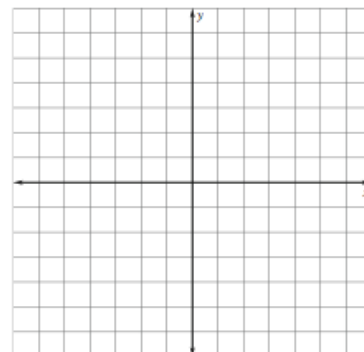
3.  $y = 2e^{0.3(x-5)}$

4.  $y = -4e^{0.5(x+2)} + 2$

x	y



x	y



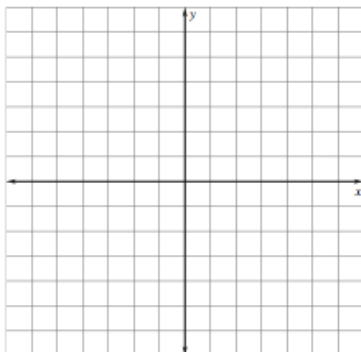
Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

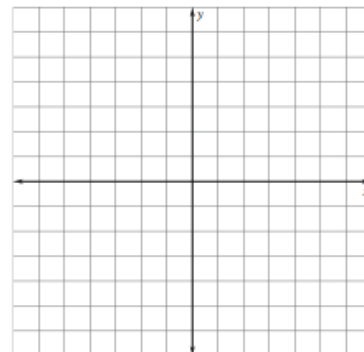
5.  $y = 3 - e^{x-1}$

6.  $y = -2 \cdot \left(\frac{3}{2}\right)^{x-1} + 4$

x	y



x	y



Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

<u><b>Exponential Growth Model</b></u> $y = a(1+r)^t$	<u><b>Exponential Decay Model</b></u> $y = a(1-r)^t$
<u><b>Compound Interest</b></u> $A = P\left(1 + \frac{r}{n}\right)^{nt}$	<u><b>Continuously Compounded Interest</b></u> $A = Pe^{rt}$

7. You purchase a new car for \$8,025. It depreciates at a rate of 18% per year. How much will your car be worth in 3 years?
  
8. You put \$2,500 in a savings account with an interest rate of 4.2%. If interest is compounded daily and you never make any additional deposits or withdrawals, how much money will be in your account after 2 years?
  
9. You deposit \$1500 in an account that pays 4.8% annual interest compounded continuously. What is the balance after 4 years?
  
10. You deposit \$4600 in an account that pays .50% annual interest compounded continuously. What is the balance after 10 years?
  
11. You purchase an antique truck for \$22,550. It appreciates at a rate of 3% per year. How much will your car be worth in 15 years?
  
12. You put \$12,000 in a savings account with an interest rate of 3.25%. If interest is compounded monthly and you never make any additional deposits or withdrawals, how much money will be in your account after 7 years?

**(13-18) Evaluate the logarithm without using a calculator.**

13.  $\log_2 8$

14.  $\log_6 1$

15.  $\log_5 5$

16.  $\log_{\frac{1}{3}} 27$

17.  $\log_{625} 5$

18.  $\log_{\frac{1}{3}} 81$

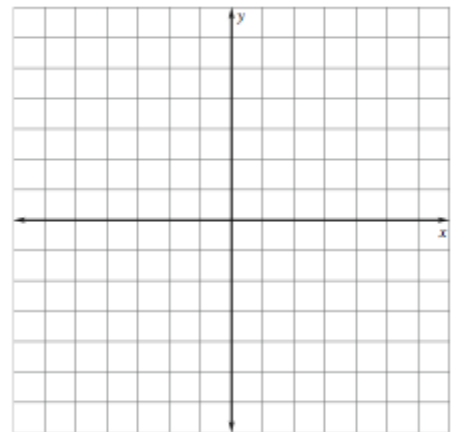
**(19-20) Graph each function. State the domain and range and draw the asymptote.**

19.  $y = \log_5 x$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

$x$	$y$

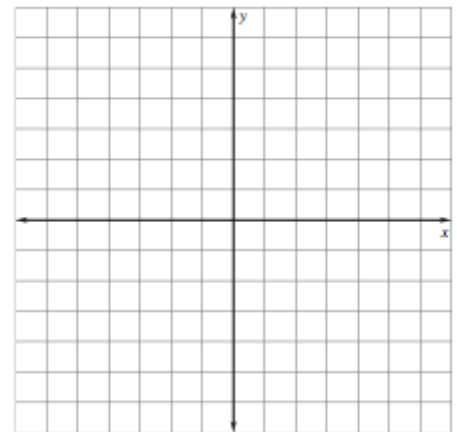


20.  $y = \log_2(x+1) - 3$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

$x$	$y$



**(21-24) Find the inverse of the function.**

21.  $y = (0.4)^x$

22.  $y = \log_8 x$

23.  $y = \ln(x-2)$

24.  $y = 6^x + 5$