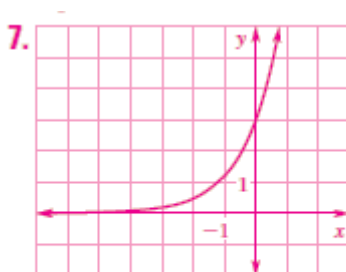
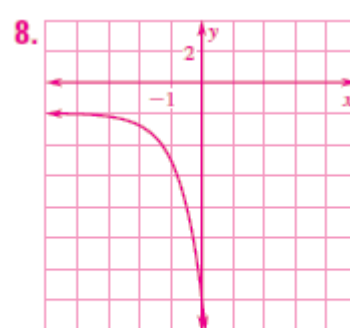


domain: all real numbers,
range: $y > 0$

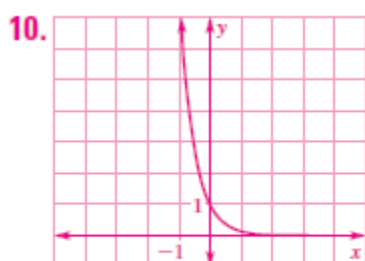


domain: all real numbers,
range: $y > 0$

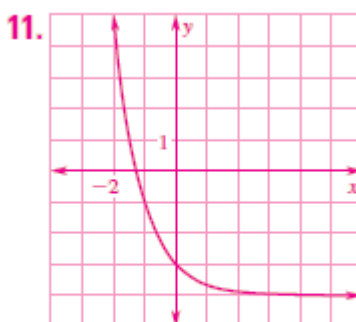


domain: all real numbers,
range: $y < -2$

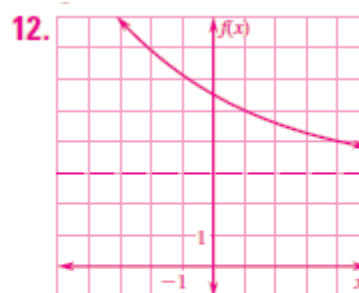
9. **FINANCE** You deposit \$1500 in an account that pays 7% annual interest compounded daily. Find the balance after 2 years. **\$1725.39**



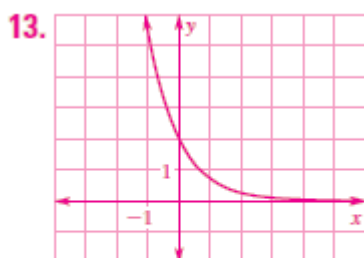
domain: all real numbers,
range: $y > 0$



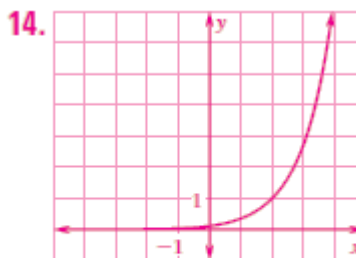
domain: all real numbers,
range: $y > -4$



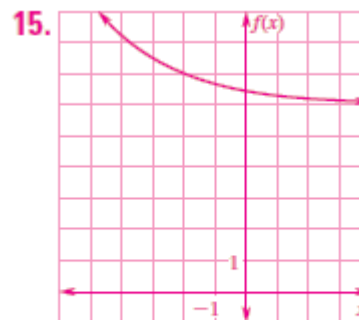
domain: all real numbers,
range: $y > 3$



domain: all real numbers,
range: $y > 0$



domain: all real numbers,
range: $y > 0$



domain: all real numbers,
range: $y > 6$

16. **PHYSIOLOGY** Nitrogen-13 is a radioactive isotope of nitrogen used in a physiological test called positron emission tomograph (PET). A typical PET scan begins with 6.9 picograms of nitrogen-13 (1 picogram = 10^{-12} grams). The number N of picograms of nitrogen-13 remaining after t minutes can be modeled by $N = 6.9e^{-0.0695t}$. How many picograms of nitrogen-13 remain after 10 minutes? **about 3.44 picograms**

17. $\log_3 243$ **5**

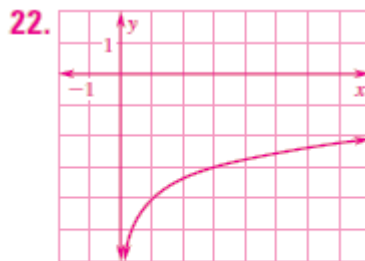
18. $\log_7 1$ **0**

19. $\log_{1/6} 216$ **-3**

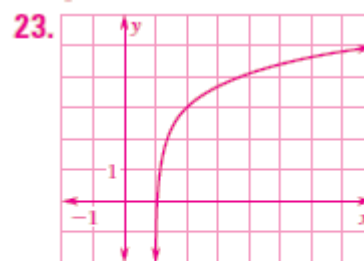
20. $\log_{125} \frac{1}{5}$ **$-\frac{1}{3}$**



domain: $x > 0$,
range: all real numbers



domain: $x > 0$,
range: all real numbers



domain: $x > 0$,
range: all real numbers

25. $\log_8 3xy$
 $\log_8 3 + \log_8 x + \log_8 y$

26. $\ln 10x^3y$
 $\ln 10 + 3 \ln x + \ln y$

27. $\log \frac{8}{y^4}$
 $\log 8 - 4 \log y$

28. $\ln \frac{3y}{x^5}$
 $\ln 3 + \ln y - 5 \ln x$

29. $3 \log_7 4 + \log_7 6$ $\log_7 384$

30. $\ln 12 - 2 \ln x$ $\ln \frac{12}{x^2}$

31. $2 \ln 3 + 5 \ln 2 - \ln 8$ $\ln 36$

32. $5^x = 32$ about 2.153

33. $\log_3 (2x - 5) = 2$ 7

34. $\ln x + \ln (x + 2) = 3$
about 3.592