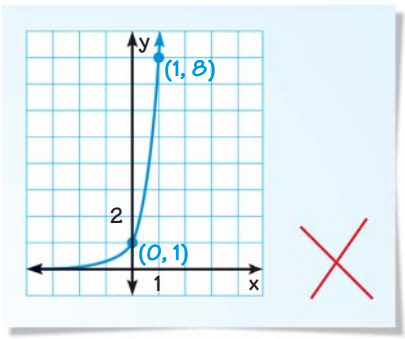
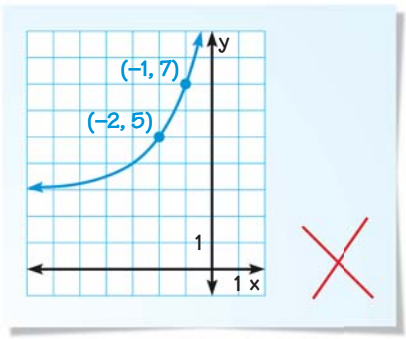
ERROR ANALYSIS ***Describe*** **and correct the error in graphing the function.**

26. $y = 2 \cdot 4^x$



27. $y = 2^{x-3} + 3$



WRITING MODELS **In Exercises 28–30, write an exponential growth model that describes the situation.**

28. In 1992, 1219 monk parakeets were observed in the United States. For the next 11 years, about 12% more parakeets were observed each year.

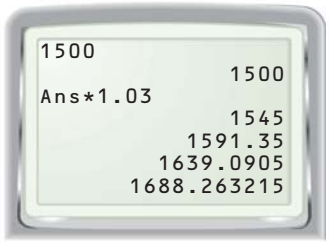
29. You deposit \$800 in an account that pays 2% annual interest compounded daily.

30. You purchase an antique table for \$450. The value of the table increases by 6% per year.

31. **GRAPHING CALCULATOR** You deposit \$1500 in a bank account that pays 3% annual interest compounded yearly.

a. Type 1500 into a graphing calculator and press ENTER. Then enter the formula ANS * 1.03, as shown at the right. Press ENTER seven times to find your balance after 7 years.

b. Find the number of years it takes for your balance to exceed \$2500.



32. **TEXAS ESSENTIAL KNOWLEDGE AND SKILLS** Write an exponential function of the form $y = ab^{x-h} + k$ whose graph has a y-intercept of 5 and an asymptote of $y = 2$.

33. **GRAPHING CALCULATOR** Consider the exponential growth function $y = ab^{x-h} + k$ where $a = 2$, $b = 5$, $h = -4$, and $k = 3$. Predict the effect on the function's graph of each change in a, b, h, or k described in parts (a)–(d). Use a graphing calculator to check your prediction.

a. a changes to 1 **b.** b changes to 4 **c.** h changes to 3 **d.** k changes to -1

34. **CHALLENGE** Consider the exponential function $f(x) = ab^x$.

a. Show that $\dfrac{f(x+1)}{f(x)} = b$.

b. Use the result from part (a) to explain why there is no exponential function of the form $f(x) = ab^x$ whose graph passes through the points in the table below.

x	0	1	2	3	4
y	4	4	8	24	72