

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Algebra 2 CP Mid-Chapter 8 PRACTICE

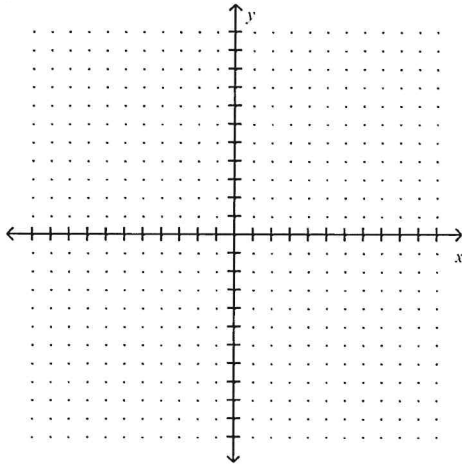
- CALCULATOR** If \$3750 is invested at an interest rate of 3.85% per year, find the amount of the investment at the end of 2 years for the following compounding methods:
  - annually
  - semiannually
  - quarterly
  - continuously
- CALCULATOR** The length  $l$  (in centimeters) of a tiger shark can be modeled by the function  $l = 337 - 276e^{-0.178t}$  where  $t$  is the shark's age (in years). What is the length of a tiger shark that is 5 years old? Round to the nearest whole number.
- CALCULATOR** Since 1980 the population of the city of Brownville has grown according to the mathematical model  $y = 720,500(1.022)^x$ , where  $x$  is the number of years since 1980.
  - Explain what the numbers 720,500 and 1.022 represent in this model.
  - What would the population be in 2017 if the growth continues at the same rate?
- CALCULATOR** Your new computer costs \$1500 but it depreciates in value by about 18% each year.
  - Write an equation that would indicate the value of the computer after  $x$  years.
  - How much will your computer be worth after 6 years?

### Algebra 2 CP Mid-Chapter 8 Practice Test

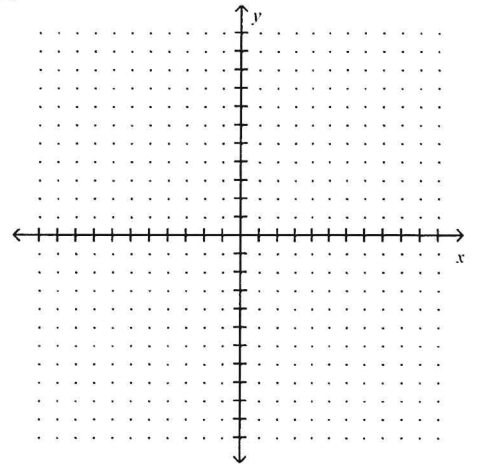
5. For the function  $y = 2^{x-3} + 1$ :
- Make a table of values.

6. For the function  $y = \log_3 x + 1$ :
- Make a table of values.

b) Graph.



b) Graph.



## Algebra 2 CP Mid-Chapter 8 Practice Test

7. Solve for  $x$ .

a)  $\log_3 \frac{1}{81} = x$

b)  $\log_x 4 = \frac{1}{3}$

c)  $\log_{36} x = \frac{1}{2}$

d)  $\log_x 1000 = 3$

e)  $\log_7 343 = x$

f)  $\log_5 x = 3$

g)  $\log_7 \frac{1}{49} = x$

h)  $\log_{500} 500 = x$