

9.3 Paper Practice (Part 2)**Writing Exponential Functions**

- 1.** Leroy received a stamp for his collection as a gift. When he received the stamp, it was worth \$14.50. The value of the stamp increases by 2% each year.
 - a.** Write an equation for the value of the stamp V after t years.

 - b.** Use the equation to predict the value of the stamp after 18 years.

- 2.** Rosario invests \$2000 in an account that earns 3.5% interest compounded quarterly and makes no withdrawals.
 - a.** Write an equation for the balance of the account A after t years.

 - b.** Use the equation to find the balance of the account after 12 years.

- 3.** The population of Lima, Ohio, decreased from about 38,580 in 2010 to about 36,470 in 2020. The annual rate of population decrease for the period was about 0.66%.
 - a.** Write an equation for the population P of Lima, Ohio, t years after 2010.

 - b.** Use the equation to estimate the population of Lima, Ohio, in 2040.

NAME _____ DATE _____ PERIOD _____

4. Hank opens a savings account with \$850. The account earns 1.2% interest compounded monthly. How much will be in the account after 15 years if he makes no more deposits or withdrawals? Round your answer to the nearest cent.
5. A manufacturing company purchases a machine for \$120,000. The value of the machine depreciates by about 9% each year. What will the value of the machine be 7 years after it is purchased? Round your answer to the nearest thousand.

Write an exponential function for the graph that passes through the points.

6. (1, 6) and (3, 54)

7. (1, 15) and (4, 405)