

Name \_\_\_\_\_  
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Date \_\_\_\_\_  
Algebra II

## *Creating and Solving Simple Exponential Functions*

1. A certain car depreciates at a rate of 15% each year. If the car was initially worth \$8125, what is the value of the car, rounded to the nearest cent, 11 years later?

2. The value of a truck bought new for \$28,000 decreases 9.5% each year. Write an exponential function to represent this function and predict the value of the truck to the nearest cent after 10 years.

3. Cassandra bought an antique dresser for \$500. If the value of her dresser increases 6% annually, what will be the value of Cassandra's dresser at the end of 3 years to the *nearest dollar*?

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|----------|----------|
| 1) \$415 | 3) \$596 |
| 2) \$590 | 4) \$770 |

4. Daniel's Print Shop purchased a new printer for \$35,000. Each year it depreciates (loses value) at a rate of 5%. What will its approximate value be at the end of the fourth year?

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| 1) \$33,250.00 | 3) \$28,507.72 |
| 2) \$30,008.13 | 4) \$27,082.33 |

5. Kathy plans to purchase a car that depreciates (loses value) at a rate of 14% per year. The initial cost of the car is \$21,000. What is the value,  $v$ , of the car after 3 years rounded to the nearest cent?

6. A bank is advertising that new customers can open a savings account with a  $3\frac{3}{4}$  interest rate compounded annually. Robert invests \$5,000 in an account at this rate. If he makes no additional deposits or withdrawals on his account, find the amount of money he will have, to the nearest cent, after three years.

7. A car worth \$20,000 depreciates at a rate of 8.75% each year. Find the value of the car after 11 years to the nearest cent?

8. Marissa deposits \$2000 into a bank account with pays an annual interest rate of 4.6%. How much money, to the nearest cent, will she have in the account after 8 years?

9. Jeff deposits \$8750 into a bank account with pays an annual interest rate of 1.5%. How much money, to the nearest cent, will he have in the account after 12 years?

10. A car worth \$41,235 depreciates at a rate of 11.5% each year. Find the value of the car after 7 years to the nearest cent?