

Solve.

- 1) The value of a particular investment follows a pattern of exponential growth. In the year 2000, you invested money in a money market account. The value of your investment t years after 2000 is given by the exponential growth model $A = 2600e^{0.052t}$. How much did you initially invest in the account? 1) _____
A) \$2738.78 B) \$135.20 C) \$2600.00 D) \$1300.00
- 2) The value of a particular investment follows a pattern of exponential growth. In the year 2000, you invested money in a money market account. The value of your investment t years after 2000 is given by the exponential growth model $A = 1700e^{0.062t}$. When will the account be worth \$2466? 2) _____
A) 2005 B) 2006 C) 2008 D) 2007
- 3) The value of a particular investment follows a pattern of exponential growth. In the year 2000, you invested money in a money market account. The value of your investment t years after 2000 is given by the exponential growth model $A = 2000e^{0.048t}$. By what percentage is the account increasing each year? 3) _____
A) 5.1% B) 5.3% C) 5.4% D) 4.8%
- 4) The function $A = A_0e^{-0.0077x}$ models the amount in pounds of a particular radioactive material stored in a concrete vault, where x is the number of years since the material was put into the vault. If 300 pounds of the material are initially put into the vault, how many pounds will be left after 30 years? 4) _____
A) 50 pounds B) 450 pounds C) 238 pounds D) 38 pounds
- 5) The function $A = A_0e^{-0.0077x}$ models the amount in pounds of a particular radioactive material stored in a concrete vault, where x is the number of years since the material was put into the vault. If 400 pounds of the material are placed in the vault, how much time will need to pass for only 317 pounds to remain? 5) _____
A) 60 years B) 40 years C) 30 years D) 35 years
- 6) The population of a particular country was 23 million in 1980; in 1990, it was 34 million. The exponential growth function $A = 23e^{kt}$ describes the population of this country t years after 1980. Use the fact that 10 years after 1980 the population increased by 11 million to find k to three decimal places. 6) _____
A) 0.039 B) 0.666 C) 0.049 D) 0.240

Answer Key

Testname: PRACTICE17

- 1) C
- 2) B
- 3) D
- 4) C
- 5) C
- 6) A