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**MCR3U: 4.1- Exploring Growth and Decay**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score: / 25

**Teacher:**  **Date:** **Time:**

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| K:  **/5** | T:  **/5** | C:  **/5** | A:  **/10** |

Purpose of Assessment: **Assessment of Learning**

Method of Assessment**: KTCA OUT OF**

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| **Ontario Curriculum Expectations** | |
| **B1.4** | determine, through investigation, and describe key properties relating to domain and range, intercepts, increasing/decreasing intervals, and asymptotes (e.g., the domain is the set of real numbers; the range is the set of positive real numbers; the function either increases or decreases throughout its domain) for exponential functions represented in a variety of ways |

***General Instructions: Answer the problem correctly, support your answer with a solution.***

1. Mrs. David has $ 2000 in a savings account that has an annual interest rate of 14%. Write a function to represent the amount of money in her savings account and find the amount of money in the account after 12 years.  **[K:1, T:1, C:1, A:2]**

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1. Mr. Smith bought a motorcycle for $5500. It decreases in value 11% each year after it was purchased. If he bought it in 2008, what will it be worth in 2012?  **[K:1, T:1, C:1, A:2]**

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1. The population of dogs in the Philippines, can be modeled by A= 7190(1.07)t where t is the number of years since 1995. By what percent did the population increase each year?  **[K:1, T:1, C:1, A:2]**

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**4.** Vanessa buys a car for $ 40000. Its value depreciates 15 % every 6 months. How much is the car worth in 8 years?  **[K:1, T:1, C:1, A:2]**

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5. In 1980, a small town had a population of 10,000 people.Since 1980, the town has increased 4% per year. What was the population in 2000? **[K:1, T:1, C:1, A:2]**

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