**Ch 7 Practice Test** Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Find the value of each expression. (1 pt. each)**  **2­0 = \_\_\_ 5-2 = \_\_\_ -92 = \_\_\_ (-9)2 = \_\_\_** |

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| **Evaluate each expression for x = 3 and y = -2. Show work underneath each problem. (2 pts each)** |

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| **Write an equivalent expression. Answer should contain only positive exponents. (2 pts)** |

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| **Enter an expression equivalent to in the form, . (1 pt)**  **Enter an expression equivalent to in the form . (1 pt)** |

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| **Select *all* expressions equivalent to (2 pts)** |

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| **Determine whether each function represents exponential growth or decay. Select the correct option for each function and explain your answer. (1 pt. each)** | | | |
| **Function** | **Growth** | **Decay** | **Explain** |
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| **Create a table of values and then graph the following equation for a domain of {-2, -1, 0, 1, 2}. Then state whether the function is increasing or decreasing. (5 pts)** |

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| **A fish biologist determines that there are approximately 500 trout in Blue Lake. The population is growing at a rate of 3% each year. How many deer will line in the park after 5 years? (2 pts)** |

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| **Suppose you invest $2,000 in an account that will earn 2.5% compounded quarterly. How much money will be in the account after 5 years? After 12 years?**  **(3 pts)** |

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| **A population of amoebas in a petri dish will double in size every 30 minutes. At the start of an experiment the population is 50. The function , where x is the number of 30 minute periods, models the population growth. How many ameobas are in the petri dish after 3 hours? (3 pts)** |

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| **Error Analysis: A student evaluated the function for as shown below**        **Describe and correct the student’s mistake(s). (2 pts)** |