**PC12 LG 4A (Formative Assessment 2019)**

**Marking Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Student #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1. Write the equation of the function that results from the following set of transformations:**  **is stretched (*EXPANDED*) vertically by a factor of 2, stretched (*COMPRESSED*) horizontally by a factor of** **, reflected in the y-axis, and translated 7 units up and 6 units to the left.**

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**2. Describe in words how the function** **can be transformed into the function:** .

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**3. Given the function**  **find each of the following:**

a) equations of any asymptote(s)

b) domain and range

c) x-intercepts and y-intercepts if they exist

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**4. The function**  **can be used to determine the length of time t, in hours, that milk will remain fresh where T is the storage temperature in degrees Celsius. How long will milk keep fresh at 19 degrees Celsius?**

**5. Solve algebraically:** .

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**6. Solve algebraically:** 

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**7. A certain bacteria grew from a population of 100 to a population of 3200 in 8 hours. Find the doubling period of this bacterium.**

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**8. If 12.5% of a sample of I-235 remains after 6 minutes, what is the half life of I-235?**

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**9. Solve for x rounding your answer to 2 decimal places:** .

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| Directions: |  | **See me about this** |  | **Move on to next guide** |  | **Review and redo** |

**PC12 LG 4B (Formative Assessment)**

**Marking Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Student #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1. Write the equation of the function that results from the following set of transformations:** **is stretched (*COMPRESSED*) vertically by a factor of** **, stretched (*EXPANDED*) horizontally by a factor of 4, reflected in the x-axis, and translated 8 units down and 9 units to the right.**

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**2. Describe in words how the function** **can be transformed into the function:** .

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**3. Given the function**  **find each of the following:**

a) equations of any asymptote(s)

b) domain and range

c) x-intercepts and y-intercepts if they exist

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**4. The function**  **can be used to determine the length of time t, in hours, that milk will remain fresh where T is the storage temperature in degrees Celsius. How long will milk keep fresh at 25 degrees Celsius?**

**5. Solve algebraically:** .

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**6. Solve algebraically:** 

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7. A certain bacteria grew from a population of 400 to a population of 10800 in 10 hours. Find the tripling period of this bacterium.**

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**8. If the half-life of a sample of U-239 is 15 seconds, how long will it take for a sample to decay to 12.5% of its initial weight?**

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**9. Solve for x rounding your answer to 2 decimal places:** .

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| Directions: |  | **See me about this** |  | **Move on to next guide** |  | **Review and redo** |