**Station 1: Graphing Exponentials**

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| 1. Graph the following

 | 1. Graph the following

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**Station 2: Characteristic of Exponentials**

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| 1. **Graph the following and fill in information below**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_X-intercept: \_\_\_\_\_\_\_\_\_\_ y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_Interval of Increase: \_\_\_\_\_\_\_\_\_\_  Interval of Decrease: \_\_\_\_\_\_\_\_\_\_\_Maximum(s): \_\_\_\_\_\_\_\_\_\_\_\_\_Minimum(s):\_\_\_\_\_\_\_\_\_\_\_\_Symmetry: \_\_\_\_\_\_\_\_\_\_\_\_\_Negative:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_End- Behavior: Find the average rate of change from x=1 to x=2:  | 1. **Graph the following and fill in information below**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_X-intercept: \_\_\_\_\_\_\_\_\_\_ y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_Interval of Increase: \_\_\_\_\_\_\_\_\_\_  Interval of Decrease: \_\_\_\_\_\_\_\_\_\_\_Maximum(s): \_\_\_\_\_\_\_\_\_\_\_\_\_Minimum(s):\_\_\_\_\_\_\_\_\_\_\_\_Symmetry: \_\_\_\_\_\_\_\_\_\_\_\_\_Negative:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_End- Behavior: Find the average rate of change from x=1 to x=2:  |

**Station 3: Transformation of Exponentials**

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| 1. State the transformation for the following equation

  | 1. State the transformation for the following equation

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| 1. Given the parent function . Write the equation of the graph that is reflected over the x-axis and shift to the left 6.
 | 1. Given the parent function . Write the equation of the graph that is stretched by 3 and shifted up 11.
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**Station 4: Solving Exponentials**

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| 1. Solve the following for x

 | 1. Solve the following for x $9^{3x+16}=81^{x+5}$
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| 1. Solve the following for x

 | 1. Solve the following for x

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**Station 5: Word Problems with Exponentials**

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| 1. Luke deposits $2000 into a bank account that pays 5% interest compounded monthly. Find the balance in the account after 4 years.
 | 1. A certain radioactive element decays at a rate of 21% per month. If the starting amount was 32 ounces, how much will be left after 1 year?
 |
| 1. Given $y=3\left(1.25\right)^{x} $Determine if the function is growth or decay. Then determine its growth/decay factor and its growth/decay percent. What is the initial amount?
 | 1. The value of Barbie Real Dream House is $12,500,000. The house is in a prime location and appreciates at a rate of 7% per year. How much will the house be worth in 5 years?
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**Station 6: Geometric sequences**

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| 1. Write both the explicit (closed) and recursive formula for the following sequence: 42, 336, 2688,…
 | 1. Write both the explicit (closed) and recursive formula for the following sequence: 1250, 250, 50,…
 |
| 1. Find the **third** term of the sequence whose first term is 10, and the **recursive** formula is .
 | 1. Find the 17th term of the sequence
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