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Study Guide for Unit 5 Exponential Functions

**Learning Target #1:** “I can apply the rules of exponents.” N-RN.1, N-RN.2

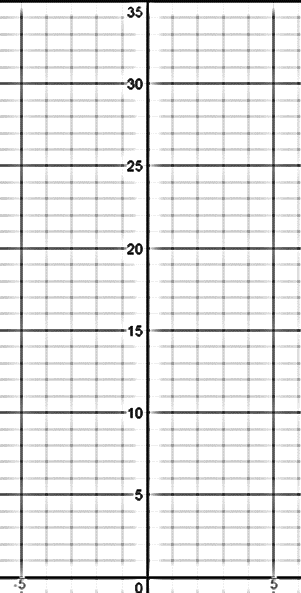
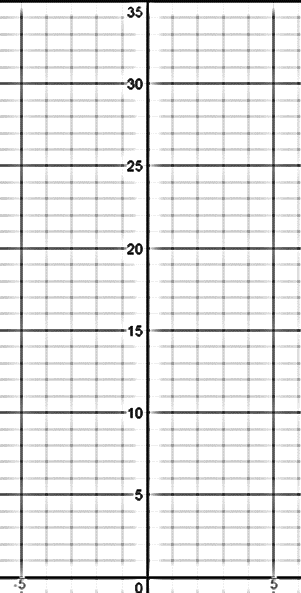
Simplify the exponential expressions. Remember to FULLY simplify, so no negative exponents in your final answer.

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**Learning Target #2:** “I can create and graph exponential functions and use them to solve problems.” A-CED.1, A-CED.2, N-Q.2,N-Q.3, F.BF.1

1. Write the exponential equation for the graph that passes through and .
2. Write the exponential equation for the graph that passes through and .
3. Graph the equations you found in #13 and #14.

Equation: Equation:



**Learning Target #3:** “I can investigate the family of exponential functions through the four different representations, graph, table, equation, and situation, and I can interpret the key features/parameters.” F-IF.4, F-IF.7e, F-LE.2, F-LE.5

1. The M&M Lab activity used the equation , where the total number of M&Ms and number of trials. Using that equation, how many M&Ms would be left after 3 rounds? After 5 rounds?

**Learning Target #4:** “I can identify exponential functions as representing growth or decay.” I-IF.8b, F-LE.1c, F-IF.6

1. Create a situation that would be modeled by decay. Write the equation for that situation.
2. Create a situation that would be modeled by growth. Write the equation for that situation.
3. What do you know about the multiplied for a decay model?
4. What do you know about the multiplied for a growth model?