**Senior final Exam Review 2015**

Open Response Practice (**25pts**)

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| Graphing Cubic Functions |  |
| 1. Use your knowledge of the characteristics of cubic functions to answer the questions about the graph of the equation below. 2. What is the end behavior of the function? Explain how you know. 3. What are the-intercepts of the function? Show or explain your answer. 4. What is the -intercept of the function? Show or explain your answer. 5. Sketch the graph of the equation on the coordinate grid provided. | 1. Use your knowledge of the characteristics of cubic functions to answer the questions about the graph of the equation below. 2. What is the end behavior of the function? Explain how you know. 3. What are the-intercepts of the function? Show or explain your answer. 4. What is the -intercept of the function? Show or explain your answer. 5. Sketch the graph of the equation on the coordinate grid provided. |

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| Dividing Polynomials |  |
| 1. Use your knowledge of polynomial long division to answer the following question. Note: Your answer will have a ***remainder***.   Divide by. | 1. Use your knowledge of polynomial long division to answer the following question. Note: Your answer will have a ***remainder***.   Divide by. |
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| Exponential Functions & Continuous Compounds | |  |
| 1. For her quinceañera (15th birthday), Liana receives a total of $1000 from family and friends. She deposits of the money into a savings account. The account has an interest rate of 4% ***compounded continuously***. 2. What is the *principal*? 3. Write an equation to model the future growth of the savings account. 4. How much money will be in the account in when Liana turns 25? | 1. Derek takes out two school loans at the start of his freshman year of college. The first is for $5000 and the second is a smaller loan of $1000, to help pay for books and supplies. Both loans have an interest rate of 6.8% ***compounded continuously***. 2. What is the *principal*? 3. Write an equation to model the future growth of the loan. 4. How much money will Derek owe at the end of his senior year? | |
| 1. A truck cost $30,000 in the year 2005. For each year after 2005, the value of the truck was 12% less than the previous year. 2. Write an equation to model the depreciation of the truck’s value. 3. What will the value of the truck in the year 2020? | 1. A used car cost $18,000 in the year 2009. For each year after 2009, the value of the truck was 8% less than the previous year. 2. Write an equation to model the depreciation of the truck’s value. 3. What will the value of the truck in the year 2018? | |