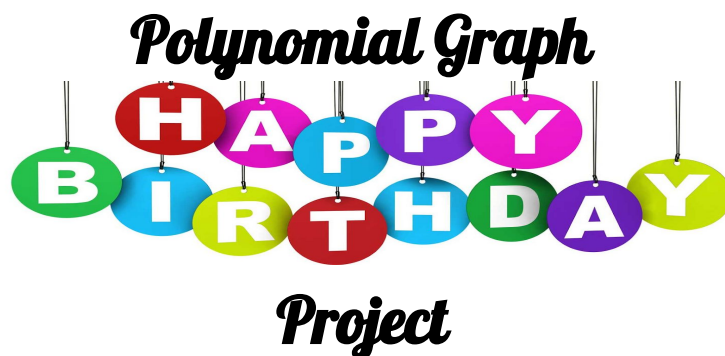


Name: \_\_\_\_\_ Hour: \_\_\_\_\_



You are going to create your own personal birthday polynomial!

Use the digits of the **month**, the **day**, and 4-digit **year** of your birth—in order—as the **coefficients** of the polynomial.

Write your birthday here: \_\_\_\_\_!

For example: If your birthday is August 13, 1991, then use the digits 8131991 in that order. So, your polynomial would be  $f(x) = 8x^5 - 1x^4 - 3x^3 + 19x^2 - 9x + 1$ . If you were born in the year 2000, you may want to make up the remaining numbers.

- 1) Graph your polynomial on **Desmos.com**. Change the *signs* of the coefficients to make the *most interesting graph you can*—one that in some way reflects you.
  - a) Take a screenshot of your graph (either print it or include the graph in your google slide presentation) **(2pts)**
  - b) Be sure to include a **title** and **labels** for the  $x$  &  $y$  axes **(3 pts)**
  - c) **Label** key features like your **zeros & y-intercept** **(2 pts)**
- 2) You will then need to analyze the polynomial by finding the following:
  - Degree & classification **(2 pts)**
  - End behavior (Use arrows and proper notation) **(3 pts)**
  - All zeros including multiplicities (you need to calculate these by FACTORING and using the QUADRATIC FORMULA) Show your work! **( 10 pts)**
- 3) Write a summary paragraph about your polynomial. Please use full sentences! **(5 pts)**

Please include the following:

  - \*Polynomial classification
  - \* At least 2 interesting features of your polynomial
  - \*How does your polynomial reflect who you are? Why did you choose the signs you chose?
- 4) Make a presentation of your birthday polynomial on either a piece of paper or a google slide presentation. Make sure to include all of your work. Be creative and original. **(3 pts)**

Total:     /30 points

Name:\_\_\_\_\_

Date:\_\_\_\_\_

Birthday Project Workspace

Polynomial Function:

Degree/ Classification	Y-intercept
End Behavior: (Arrows and proper notation with Left & Right)	
Zeros	
Summary:	