

Name:

Date:

Class:

Team:

The Birthday Polynomial Mini-Project

Due date: Friday 3/8/19 by the beginning of class

Grade: 50 points (5 pt deduction for each day late-may only be turned in up to 2 days after due date; Projects may be turned in early.)

Materials: 12 x 12 quilt block paper, yarn, graph paper and blank white or color paper or cardstock

| | |
|--------------------------------------|--|
| Check off as you complete each task. | Quilt Block Tasks -Please read and follow all directions carefully. |
| | <p>Task #1 - A Brief Introduction to Quilting</p> <ol style="list-style-type: none"> 1) Access the article through the class website(Unit 4 link). 2) Read and the article and on the back of the quilt block, record 5 key concepts about quilting? Think about...what is quilting, purpose of quilts, significance during the different eras in history, significance with different cultures, connections with math, interesting facts, etc. Use complete sentences and write in paragraph form 5-7 seven complete sentences. |
| | <p>Task #2- Create a Birthday Polynomial (Use graph paper)</p> <ol style="list-style-type: none"> 1) Use the digits of the month, day and 4 digit year of your birth - in order - as the coefficients of the polynomial. (For example: If your birthday is August 13, 1991, then use the digits 8131991 in that order) 2) The degree of your polynomial must be a whole number greater than 2 and less than 6. (Ex. $f(x) = 8x^5 - 1x^4 - 3x^3 + 19x^2 - 9x + 1$) 3) Change the signs of the coefficients to make the most interesting graph you can - one that in some way reflects you. <p>RECORD POLYNOMIAL HERE: _____</p> |
| | <p>Task #3- Graph the Birthday Polynomial</p> <ol style="list-style-type: none"> 1) Use Desmos to graph your polynomial. On graph paper, graph the polynomial. Label the x- and y-axis accurately. 2) Use yarn to create your polynomial. Glue your graph to your 12x12 quilt block paper. |
| | <p>Task #4- Analyze the Polynomial</p> <p>Use Desmos to analyze your polynomial. Once you graph your polynomial using Desmos,...</p> <p>___A) record the following key features on your quilt block</p> <ol style="list-style-type: none"> 1) domain and range 2) the y-intercept 3) all of the zeros 4) describe the end behavior 5) the relative extrema <p>___ B) Use color paper to label the key features on your graph.</p> |

Task #5- Make a Presentation of Your Birthday Polynomial

- 1) Be creative and original. How does the graph of this polynomial reflect who you are? (Use complete sentences.)
- 2) Present your birthday polynomial neatly, accurately and artistically on the quilt block.
- 3) The quilting summary and written analysis of your polynomial should be included on your quilt block.
- 4) You may use your graphing calculator/Desmos, but what you turn in is hand done.
- 5) Include a title at the top of your quilt block. Give your quilt block design a creative title.

| Grading | Possible Points | Earned Points |
|--|------------------------|----------------------|
| The Birthday Polynomial is accurate | 20 points | |
| The Analysis is complete and accurate | 20 points | |
| Overall presentation is creative, interesting, neat and colorful | 10 points | |
| TOTAL | 50 POINTS | |