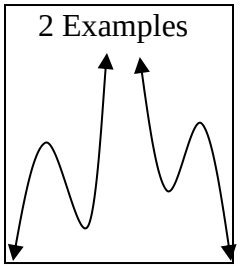
Birthday Polynomial # 1

The goal of this assignment is to creatively demonstrate your knowledge of polynomial characteristics.



1) Using a graphing calculator, graph a 3rd degree polynomial using YOUR BIRTHDAY with the general shape of one of the two example graphs to the right.

Construct your birthday polynomial as follows:

$B(x) = x^3 - (\text{month})\,x^2 + (\text{day})\,x - (\text{year})$

For example, if your birth date is March 31, 1985, then $B(x) = x^3 - 3x^2 + 31x - 85$

Your Birthday _____.

(Be creative with the "-"s and "+"s. so that your Birthday Polynomial looks like one of the boxed example graphs to the side.

Birthday Polynomial: _____

2) Using your graphing calculator, find the following: Maximum, Minimum, Roots, x – int, and y – int.

3) In the Check List, provide the following Polynomial Characteristics:
4) Increasing, Decreasing $f(x) > 0$, $f(x) < 0$, and End Behavior.
5) Give the Recursive & Explicit equation of the three charts.

13.

x	y
-3	24
-2	22
-1	20
0	18
1	16
2	14
3	12

14.

x	y
-3	48
-2	22
-1	6
0	0
1	4
2	18
3	42

15.

x	y
-3	4
-2	1
-1	0
0	1
1	4
2	9
3	16

Honors Math 3 – Birthday Polynomial – Part 1 Name _____

1. "Your" Birthday _____

2. "Your" Birthday Polynomial

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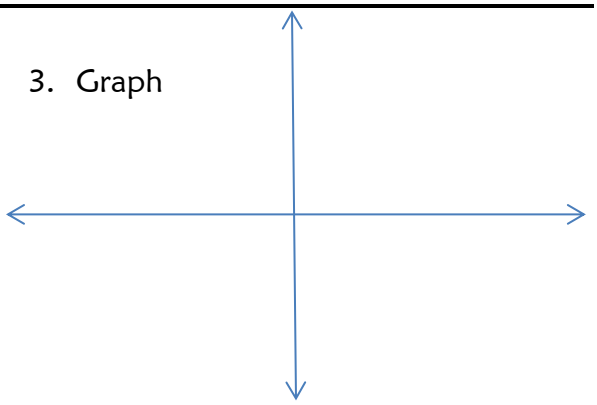
3. Graph



4. Maximum(s) _____

5. Minimum(s) _____

6. Root(s) _____

7. x – intercept(s) _____

8. y – intercept(s) _____

9. Increasing _____

10. Decreasing _____

11. F(x) > 0 _____

12. F(x) < 0 _____

13. End Behavior $x \to \infty$ _____

$x \to -\infty$ _____

14. Recursive for # 13

Explicit _____

15. Recursive for # 14

Explicit _____

16. Recursive for # 15

Explicit _____

17. Fill – in the chart

People born on Your Birthday	*What is each person known for?*

18. What are 2 major events that occurred on your Birthday?

a. _____

b. _____