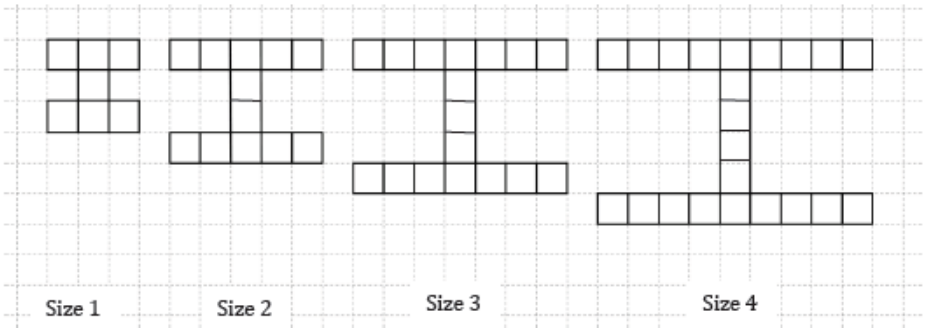
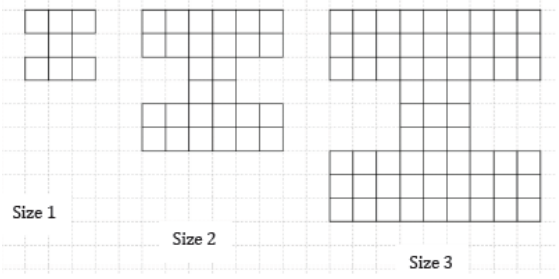
Birthday Polynomial # 3

1. Birthday Polynomial _____.
2. Find B(4). Is your function increasing, decreasing, or neither as it passes through this point?
3. Find B (-2). Is your function increasing, decreasing, or neither as it passes through this point?
4. Graph | B(x) |.
5. Find x, when| B(x) | = 10.
6. Graph B^{-1} (x).
7. True or False? B(x) will always have the same exact roots as B (-x).
8. True or False? B(x) will always have the same exact roots as – B (x).
9. True or False? B(x) will always have the same exact roots as B | (x) |.
10. True or False? B(x) will always have the same exact roots as | B(x) |.
11. True or False? If B(x) is an nth degree polynomial, then it has ***n*** Real roots (although some of them may be repeats.)
12. Write the first five terms of each of the following sequences.
    a. f(0) = 24; f(n + 1) = f(n) – 5
    b. f(0) = 25; f(n + 1) = 3f(n)
    c. f(0) = 6; f(n + 1) = 2f(n)
13. The following is a logo design in stages. How many squares will be needed to create the size 100 logos?



14. Develop a mathematical model for the number of squares in the logo for size ***n***.



15. For the next diagram how many squares will be needed to create the size 50 logos.
16. Develop a mathematical model for the number of squares in the logo for size ***n***.

Honors Math 3 – Birthday Polynomial – Part 3

Name _____

1. Birthday Polynomial

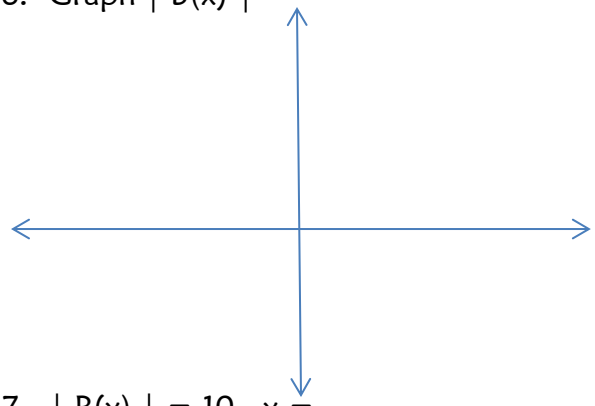
2. B(4) = _____

3. Circle one of the following	Increasing	Decreasing	Neither

4. B(-2) = _____

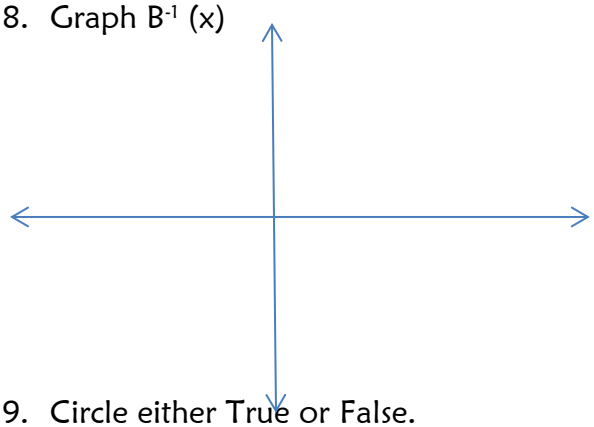
5. Circle one of the following	Increasing	Decreasing	Neither

6. Graph | B(x) |



7. | B(x) | = 10 x = _____

8. Graph B^{-1} (x)



9. Circle either True or False.

#7	True	False
#8	True	False
#9	True	False
#10	True	False
#11	True	False

10 – 12a.

f(1) =	f(2) =	f(3) =	f(4) =	f(5) =

10 – 12b.

f(1) =	f(2) =	f(3) =	f(4) =	f(5) =

10 – 12c.

f(1) =	f(2) =	f(3) =	f(4) =	f(5) =

10. Size 100 logos _____

11. Formula = _____

12. Draw Size 100 Logo Pattern

13. Size 50 logos _____

14. Formula = _____

15. Draw Size 50 Logo Pattern