**Openers #3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*Each day when you come into class, there will be a problem projected for you to complete. Find the appropriate box to complete the problem in and work on it when you arrive.*

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| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-1  **Given P(-5,9) & Q(-8,-7),**  Find the distance d(P,Q).  Find the midpoint of the segment PQ.  Find the slope of segment PQ. |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-2  4x - 4  2x2 – 5x  4x - 4  2x2 – 5x  Find the center & radius of the circle (x-7)2 + (y+4)2 = 81.  Find the center & radius of the circle x2 + y2 – 12y + 31 = 0  Write an equation of a circle with center at (-5,2) and a radius of 7. |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-3  **Find an equation of the line through A(that is**  Parallel to the line 6x + 2y + 5 = 0.  Perpendicular to the line 6x + 2y + 5 = 0.  Find a general from of an equation of the line through P(4,-3) with slope 5.  Express 8x + 3y – 24 = 0 in slope-intercept form. |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-4  If f(x) = -x3 – x2 + 3, find f(2).  Find f(a+h) if f(3 – 4x)  Find the domain. f(x) = |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-5  Find the domain and range of f if f(x) =  Explain how the graph of the function y=*f*(x-2) + 3 compares to the graph y=*f*(x).  Determine whether *f*(x) = 3x2 – 5x + 1 is even, odd, or neither.  Determine whether *f*(x) = 12 is even, odd, or neither. |

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| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-6  Find the standard equation of any parabola that has V(4, -2).  Express *f*(x) = x2 – 6x + 11 in the form a(x-h)2 + k.  Find the zeros & maximum or minimum of f(x) = -4x2 + 4x – 1. |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-7  Find the standard equation of a parabola that has a vertical axis, V(0,5), & passing through (2,-3).  Find (f ◦ g)(2) if **f(x) = 8x - 1** & **g(x) =**  Find if *f*(x) = 5x+2 & *g*(x) = 6x-1 |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-8  Determine whether f(x) = x2 + 4 is one-to-one.  Prove that f(x) = x3 – 4 and g(x) = are inverse functions of each other.  Find if  *f*(x) = 10 – 15x.  Find if *f*(x) = . |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-9  Express the statement *y is directly proportional to x and inversely proportional to the sum of r and s. If x = 3, r = 5, and s = 7, then y = 2* as a formula and then determine the value of *k*.  Express the statement *r is directly proportional to the product of s and v and inversely proportional to the cube of p. If s = 2, v = 3, and p = 5, then r = 40* as a formula and then determine the value of *k*. |