**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:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-24x - 42x2 – 5x4x - 42x2 – 5xFind 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(**$\frac{1}{2},- \frac{1}{3}) $**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:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-4If f(x) = -x3 – x2 + 3, find f(2).Find f(a+h) if f(3 – 4x)Find the domain. f(x) = $\sqrt{8-3x}$ |
| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-5Find the domain and range of f if f(x) = $\sqrt{3x-4.}$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:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-6Find 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:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-7Find 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) =** $\sqrt{x-2}.$Find $g\left(f\left(3\right)\right) $if *f*(x) = 5x+2 & *g*(x) = 6x-1 |
| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-8Determine whether f(x) = x2 + 4 is one-to-one.Prove that f(x) = x3 – 4 and g(x) = $\sqrt[3]{x+4 }$ are inverse functions of each other.Find $f^{-1 }\left(x\right)$ if  *f*(x) = 10 – 15x.Find $f^{-1 }\left(x\right)$ if *f*(x) = $\frac{1}{x+3}$ . |
| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 3-9Express 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*.  |