**CCGPS Advanced Algebra Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Unit: 2** | **Homework**: 7 |
| **Standard**: **Build new functions from existing functions**  **MGSE9-12.F.BF.4** Find inverse functions. **MGSE9-12.F.BF.4b** Verify by composition that one function is the inverse of another. **MGSE9-12.F.BF.4c** Read values of an inverse function from a graph or table, given that the function has an inverse. |
| **Essential Questions:** How can I determine the inverse of a polynomial function? |
| **Key Words**: polynomial function, function composition, inverse function |
| For #1-2, complete the table for the given function. Then use the table to graph the function with a solid line and the INVERSE of the function with a dashed line. |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| x | f(x) |
| -5 |  |
| -4 |  |
| -3 |  |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

1. f(x) = 2x + 1[image] |

|  |  |
| --- | --- |
| x | f(x) |
| -5 |  |
| -4 |  |
| -3 |  |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

1. f(x) = -3x + 2[image] |
| For #3-6, find the inverse of each function. $f^{-1}(x)$ |
| 3. $f\left(x\right)=5x+1$ | 4. $f\left(x\right)=-2x+4$ |
| 5. $f\left(x\right)=\frac{2}{3}x-2$ | 6. $f\left(x\right)=\frac{4}{3}x+3$ |
| For #7-8, use function composition to determine if $f(x)$ and $g(x)$ are inverses. |
| 7. $f\left(x\right)=3x+5, g\left(x\right)= \frac{1}{3}x-\frac{5}{3}$ | 8. $f\left(x\right)=2x+3, g\left(x\right)= -2x-3$ |