## Determining the Inverse of a Quadratic Function

## Example

Given the quadratic function $f(x)=-3(x+7)^{2}+8$
a. Graph $f(x)$ and its inverse
b. Determine whether the inverse of $f(x)$ is also a function
c. Determine the equation of the inverse
d. State the domain and range of $f(x)$ and the inverse relation

|  |  | $10^{*}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  | 8 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 6 |  |  |  |  |  |
|  |  | 4 |  |  |  |  |  |
|  |  | 4 |  |  |  |  |  |
|  |  | 2 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| -10-8 | -6 6 | -2 | 2 | 24 | 46 | 68 | 810 |
|  |  | -2 |  |  |  |  |  |
|  |  | -4 |  |  |  |  |  |
|  |  | -4 |  |  |  |  |  |
|  |  | - 6 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | -8 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | -10 |  |  |  |  |  |

