Inverse functions are \((y,x)\) when functions are \((x,y)\). If a function has an inverse that is also a function, different ordered pairs must also have different y values:

**Horizontal line Test:**
A function \(f\) has an inverse function \(f^{-1}\), if there is no horizontal line that intersects the graph of the function \(f\) at more than one point.

If a function has an inverse function, it is said to be a one-to-one function.

Graphically, an inverse of a function, reflects the original function in the line \(y=x\).

Find the inverse of \(f(x) = x^2 - 1\) if \(x \geq 0\)

Graph \(f\) and \(f^{-1}\) on the same graph