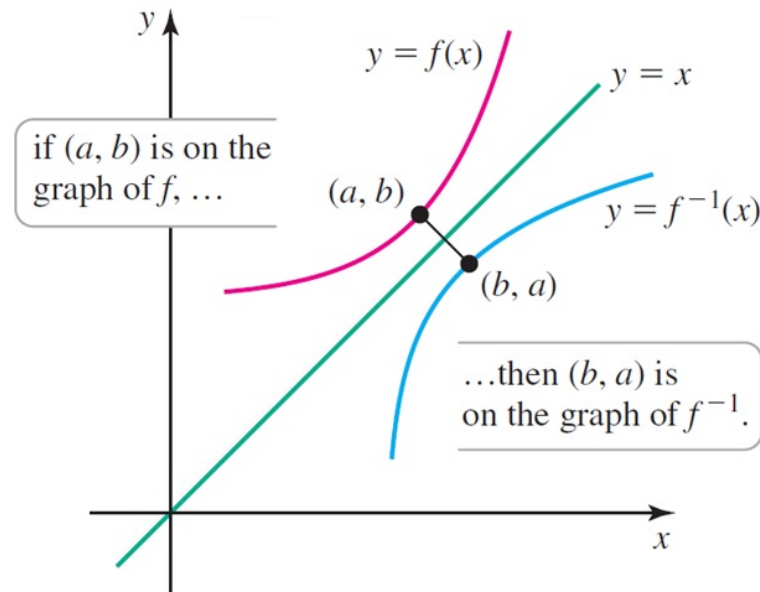


Graph of Inverse Function:

- (a, b) is on the graph of f means $b = f(a)$;
- f^{-1} should take b back to a ;
- The point (b, a) should lie on the graph of f^{-1} .



So the two graphs are symmetric about the line $y = x$.

Limits at Infinity and Horizontal Asymptotes

Def: If $f(x)$ becomes *arbitrarily close* to L for all *sufficiently large* (positive) x , we write:

$$\lim_{x \rightarrow \infty} f(x) = L.$$

Similarly, if $f(x)$ becomes *arbitrarily close* to M for all *sufficiently large* (negative) x , we write:

$$\lim_{x \rightarrow -\infty} f(x) = M.$$

The (horizontal) line $y = L$ (or $y = M$) will be called a *horizontal asymptote* of f .