

Number:

Textbook Section:

Title:

Three ways to look at the inverse of a function are:

i)

ii)

iii)

Consider:

A one-to-one function has

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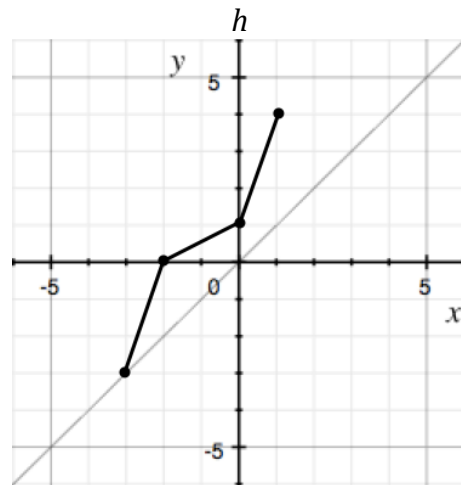
Since the inverse of a function effectively

If  $f$  is one-to-one, we can find  $f^{-1}$  if we

1. Let  $f(x) = \sqrt{x-3} + 4$ . Find  $f^{-1}$ . Give the domain and range of  $f$  and  $f^{-1}$ . Graph  $f$  and  $f^{-1}$  on the same set of axes. (These instructions are not explicitly given in the video, but this is what we end up doing.)

2. Find  $g^{-1}$  for  $g(x) = 5 - x^3$ . Confirm your answer using composition.

3. Use the graph of  $h$  to draw the graph of  $h^{-1}$ . The graph of  $y = x$  is given for reference.



4. Find  $f^{-1}$  for  $f(x) = \frac{3x+2}{x+1}$ . Give the domain and range of both  $f$  and  $f^{-1}$ .