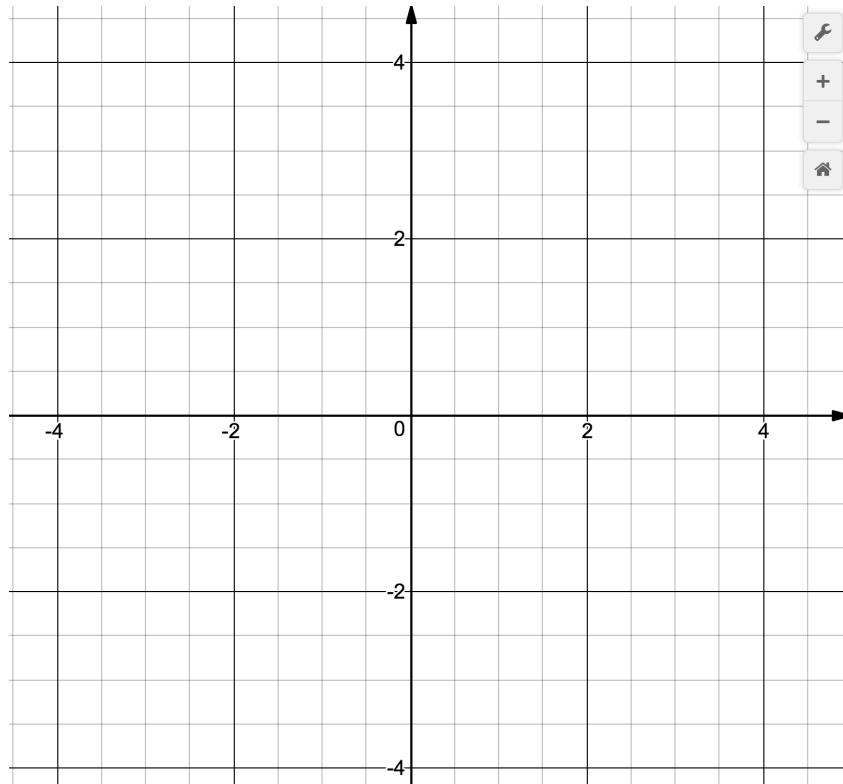# Unit 12: Inverse functions

I. Given the function:

$$f(x) = 2x + 1$$

Graphing method

1. Plot the function on the axes below.
2. Indicate in the table a few key values for (x,y).
3. Graph the line y=x as dotted line.
4. Find the inverse function by reflecting the original with respect to the symmetry line.

$f(x)$

x	y

Table method

5. Fill in the table below based on the table you filled for f(x).

$f^{-1}(x)$

x	y

6. Mark these point on the graph you produced (4). Is this the same line?

Algebraic method
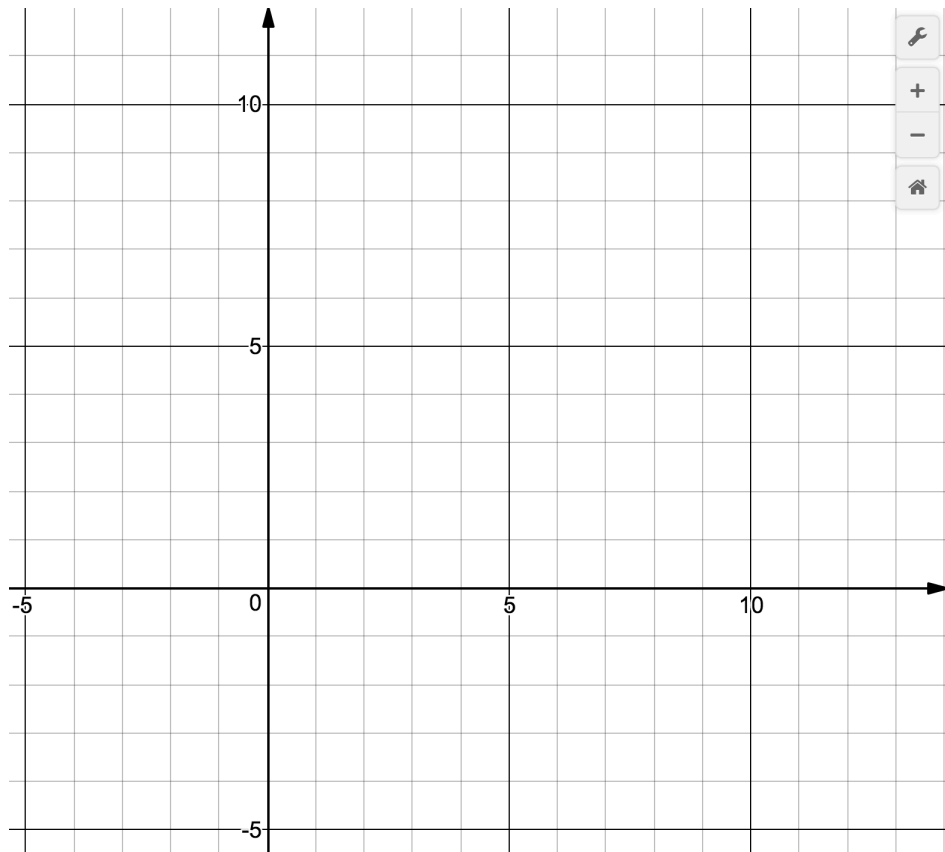
7. Using swapping x ←→ y method, find the formula for the inverse function.

II. Given the function:

$$f(x) = \sqrt{x} + 1$$

Graphing method

1. Plot the function on the axes below.
2. Indicate in the table a few key values for (x,y).
3. Graph the line y=x as dotted line.
4. Find the inverse function by reflecting the original with respect to the symmetry line.

$f(x)$

Domain:_____

Range: _____

x	y

Table method

5. Fill in the table below based on the table you filled for f(x).

$$f^{-1}(x)$$

Domain:_____

Range: _____

x	y

6. Mark these point on the graph you produced (4). Is this the same line?

Algebraic method

7. Using swapping x ←→ y method, find the formula for the inverse function.