

Some notes from class

2018-01-09

Summary of ideas around inverse functions

- 1 $f(x) = (x - 5)^2 + 1$ (if x can be any real number) does not have an inverse. Basically $f^{-1}(2)$ could be 4 or 6 since $f(4) = f(6) = 2$.
- 2 A function is one-to-one if it is impossible to find two different inputs that give the same output.
- 3 The horizontal line test is a graphical way to see if a function f is one-to-one. If there is some horizontal line that crosses the graph in more than one place, then f is not one-to-one.
- 4 A function f has an inverse as long as f is one-to-one – i.e. as long as f passes the horizontal line test.