Due 3 Oct, at start of recitation. Write up your solution carefully, including units.

1. Consider the straight line given by $f(x) = mx + b$ where $m \neq 0$.

   (a) Give a convincing (algebraic) argument of why f is a one-to-one function. Your argument does not need to be long, but it does need to use the definition of one-to-one.

   (b) Find a formula for the inverse of f.

   (c) IF the graphs of two functions are parallel lines with a nonzero slope, what can you say about the graphs of the inverses of the functions?

   (d) If the graphs of two functions are perpendicular lines, each with a nonzero slope, then what can you say about the graphs of the inverses of the functions?