FUNCTIONS

Exercise 8.6

a) If $f : x \mapsto x + 5$ and $k : x \mapsto x - 7$, show that for all x, $gf(x) = fg(x)$.

b) If $p : x \mapsto x^2 - 4$ and $k : x \mapsto 3x$, solve the equation $p(x) = k(x)$.

c) If $p : x \mapsto 3x - 2$ and $q : x \mapsto 2x + k$, find the value of k given that $pq(1) = qp(2)$.

d) A function f, defined on the set of positive real numbers $\mathbb{R}^+$ is such that $f : x \mapsto x^2 + 5$.
   i)   Evaluate $f(2)$

   ii) Evaluate $f\big(g(2)\big)$

   iii) Evaluate $\big(gff\big)(2)$

   iv) Define f^{-1} in a similar manner.