2E Part 1 Quadratics as a Function

1. The function f and g are given by $f(x) = 2x - 10$ and $g(x) = x^2 - 9$, $\quad x \in \mathbb{R}$.
   a) Find the values of f(5) and g(10)

   b) Find the value of x for which $f(x) = g(x)$

2. The function f is defined as $f(x) = x^2 + 6x - 5, \ x \in \mathbb{R}$.
a) Write $f(x)$ in the form $(x + p)^2 + q$

b) Hence, or otherwise, find the roots of $f(x)$, leaving all your answers in surd form

c) Write down the minimum value of $f(x)$ and state the value of x for which it occurs