10 The polynomial $f(x)$ is defined by $f(x) = x^3 + (k-1)x - k$ where k is a constant and $k \neq 1$.

(a) Show that $(x-1)$ is a factor of $f(x)$. **[2]**

(b) Solve the equation $f(x) = 0$. Give your roots in terms of k where necessary. **[4]**

(c) Find the values of k for which the equation $f(x) = 0$ has two distinct roots. **[4]**