2. $$f(x) = 3x^3 - 7x^2 + 7x - 10$$

(a) Use the factor theorem to show that $(x - 2)$ is a factor of $f(x)$

(2)

(b) Find the values of the constants a, b and c such that

$$f(x) \equiv (x - 2)(ax^2 + bx + c)$$

(3)

(c) Using your answer to part (b) show that the equation $f(x) = 0$ has only one real root.

(2)