Question 1.

a Divide $2x^3 + x^2 - 7x - 6$ by $(x + 1)$

b Factorise the function, $f(x) = 2x^3 + x^2 - 7x - 6$, completely.

c Hence solve $f(x) = 0$

Question 2.

The function $f(x) = 2x^3 + 9x^2 + 7x - 6$

a Find the remainder when $f(x)$ is divided by $(x + 1)$.

b Use the factor theorem to show that $(x + 3)$ is a factor of $f(x)$.

c Factorise $f(x)$ completely.

Question 3.

Simplify these algebraic fractions

(a) $$\frac{x^2 - 2x + 1}{x - 1}$$

(b) $$\frac{x^2 + 7x + 10}{2x^2 + 11x + 5}$$