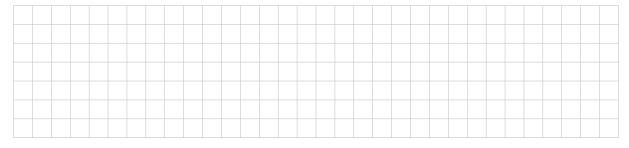
## QUESTION 2 (6 marks)

Polynomial S(x) has a remainder of x+1 when divided by  $x^2+x-2$ .

(a) (i) Write S(x) in the form S(x) = Q(x)D(x) + R(x), where Q(x) is the quotient, D(x) is the divisor, and R(x) is the remainder.



(2 marks)

(ii) Find the remainder when S(x) is divided by x + 2.



(2 marks)

(b) If P(x) = S(x) - T(x), where T(x) is a polynomial and T(-2) = -1, show that x = -2 is a zero of the polynomial P(x).



(2 marks)