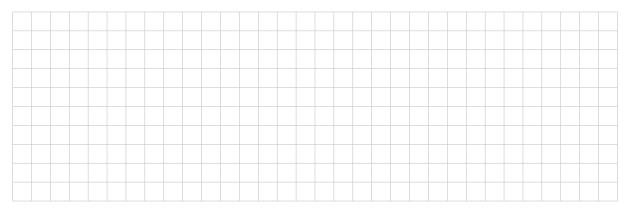
Question 9 (7 marks)

P(x) is a real cubic polynomial. When P(x) is divided by (x-1), the remainder is 35, and when it is divided by (x+2), the remainder is 80.

(a) Find the values of a and b if $P(x) = Q(x)(x^2 + x - 2) + (ax + b)$.



(3 marks)

(b) (i) If (x-2) is a factor of P(x), show that Q(2) = -5.



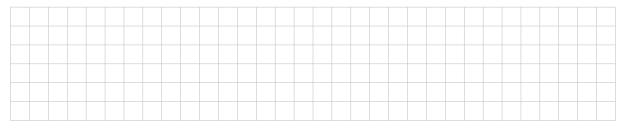
(1 mark)

(ii) If the leading coefficient of P(x) is 1, show that Q(x) = x - 7.



(2 marks)

(iii) Hence find the expanded form of P(x).



(1 mark)