3. Algebraic Expansion and Factorisation

Expansion laws

a(b+c)=ab+ac
(a+b)(c+d) = ac +ad + bc +bd
(a+b)(a-b)= a^2 - b^2
(a=b)^2= a^2 + 2ab + b^2

Factorizing quadratic function

def:
quadratic function - largest x exponent is 2

Factorization of ax^2 +bx + c

"Splitting" the middle term

Step 1: Find two numbers p and q whose sum is b and whose product is ac
Step 2: Replace bx by px + qx
Step 3: Complete the factorization