



The diagram shows the dimensions in metres of an L-shaped garden. The perimeter of the garden is 48 m.

- (i) Find an expression for y in terms of x . [1]
- (ii) Given that the area of the garden is $A \text{ m}^2$, show that $A = 48x - 8x^2$. [2]
- (iii) Given that x can vary, find the maximum area of the garden, showing that this is a maximum value rather than a minimum value. [4]