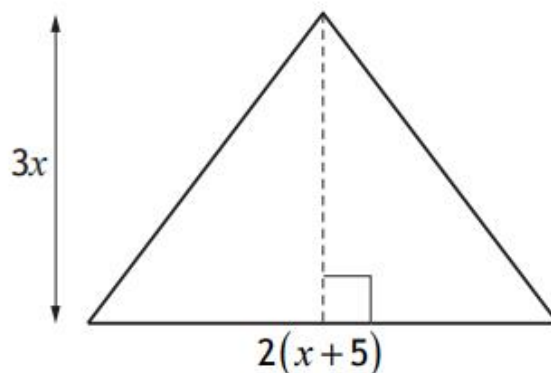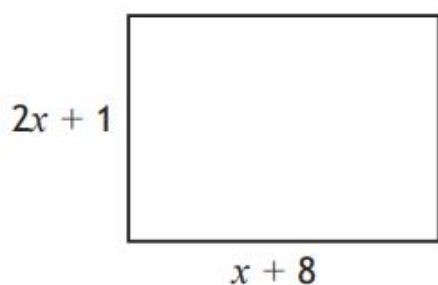The diagrams below show a rectangle and a triangle.

All measurements are in centimetres.

(a) Find an expression for the area of the **rectangle**.   **1**

(b) Given that the area of the rectangle is equal to the area of the triangle, show that $x^2 - 2x - 8 = 0$.   **3**

(c) Hence find, **algebraically**, the length and breadth of the rectangle.   **3**

Answers:

(a) $(2x + 1)(x + 8)$ or equivalent

(b)   Expand area of rectangle, equate to area of triangle and rearrange into required form.

(c)   12 cm and 9 cm