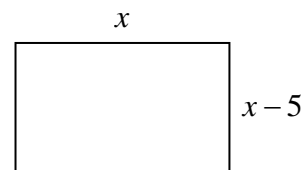
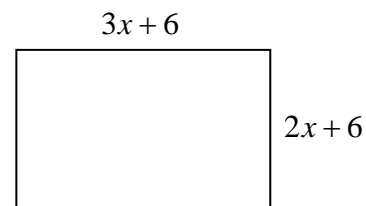


Worksheet 3-7: Applications of Quadratic Equations

1. The area of the rectangle shown in the diagram is 36 cm^2 . What are its dimensions?



2. The area of the rectangle shown in the diagram is 252 cm^2 . What are its dimensions?



3. A rectangular garden with dimensions 12 m by 8 m is surrounded by a walkway of uniform width, x . The total area of the garden and the walkway is 252 m^2 .
- (a) Sketch and label a diagram to represent the garden and the walkway.

- (b) Write the expressions for the total length and the total width of the garden and the walkway.

- (c) Write an expression for the total area of the garden and the walkway.

- (d) Find the width of the walkway.

Answers: 1. $x=9$, 9 cm by 4 cm; 2. $x=4$, 18 cm by 14 cm; 3. (b) Length = $2x+12$, Width = $2x+8$,
(c) Area = $4x^2 + 40x + 96$, (d) 3 m