

**GCSE - Numeracy and Mathematics**  
(external angles is mathematics only)

**Topic: Create and Solve Equations**

**Tier: Intermediate**

**Grade:**

c



**Starter**

Solve the following equations:

1)  $x - 4 = 11$

2)  $\frac{x}{5} + 3 = 12$

**Top Tips!**

- Most algebraic problems will involve forming an expression and then solving it. Try to think of the steps involved and the facts you need before thinking about the algebra.
- Common algebra problems involve links with properties of shapes, particularly angles and lengths.
- Read the question twice, underline the key words and consider what information you need before attempting the maths!

**Skills:**

The length of a rectangle is  $3x - 2$

The width of the rectangle is  $x + 3$

The perimeter of the rectangle is 34cm



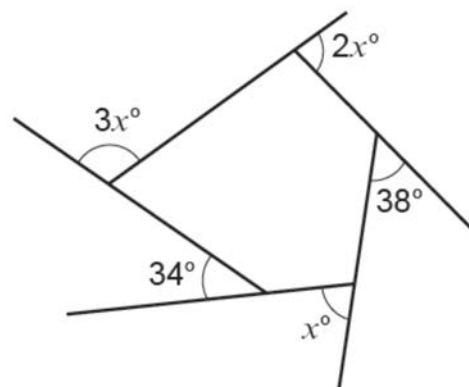
What is the area of the rectangle?

**Examination Question:**

**2014 November Linear P2 Higher Qu 4**

Calculate the value of  $x$ ?

[4]



(Diagram not drawn to scale)

**Assessment for Learning**

**Video / QR code**

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**Topic: Create and Solve Equations**

### Starter

Solve the following equations:

$$3) x - 4 = 11 \quad x = 15$$

$$4) \frac{x}{5} + 3 = 12 \quad \frac{x}{5} = 9, x = 45$$

### Top Tips!

- Most algebraic problems will involve forming an expression and then solving it. Try to think of the steps involved and the facts you need before thinking about the algebra.
- Common algebra problems involve links with properties of shapes, particularly angles and lengths.
- Read the question twice, underline the key words and consider what information you need before attempting the maths!

### Skills:

The length of a rectangle is  $3x - 2$

The width of the rectangle is  $x + 3$

The perimeter of the rectangle is 34cm



What is the area of the rectangle?

$$\begin{aligned}(3x - 2) + (3x - 2) + (x + 3) + (x + 3) &= 34 \\ 8x + 2 &= 34 \\ 8x &= 32 \\ x &= 4\end{aligned}$$

Length = 10cm

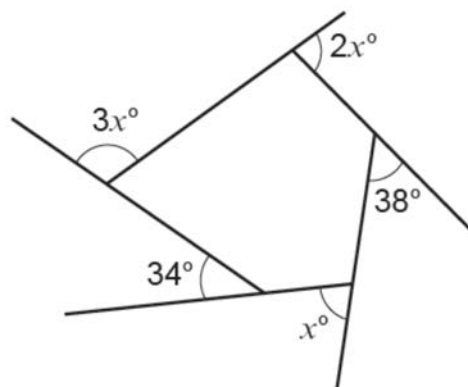
Width = 7cm

$$\begin{aligned}\text{Area} &= 10 \times 7 \\ &= 70 \text{ cm}^2\end{aligned}$$

### Examination Question:

**2014 November Linear P2 Higher Qu 4**

Calculate the value of  $x$ ? [4]



(Diagram not drawn to scale)

Sum of exterior angles =  $360^\circ$

$$3x + 2x + x + 38 + 34 = 360$$

$$6x + 72 = 360$$

$$6x = 288$$

$$x = 48^\circ$$

**Assessment for Learning**

**Video / QR code**

