

Calculators permitted but all working needs to be shown.**Essential knowledge:**

1. Remove the brackets and simplify:

(a) $2(x+1)+3(x+7)$

(b) $x(x-3)-3(x-6)$

2. Factorise:

(a) $x^2 + 3x$

(b) $y^2 - 49$

(c) $x^2 + 6x + 8$

3. Express in the form $(x + p)^2 + q$:

(a) $x^2 + 6x + 13$

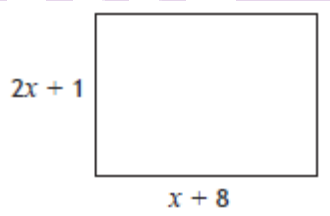
(b) $x^2 - 5x + 3$

Assessment level:

4. Expand and simplify $(3x + 1)(x - 1) + 2(x^2 - 5)$

5. Multiply out the brackets and collect like terms $(3x + 1)(x^2 - 5x + 4)$

6. Find an expression for the **area** of the rectangle shown **without brackets**.



7. Factorise fully:

(a) $2x^2 - x - 10$

(b) $3x^2 - 12$

8. Express $x^2 - 14x + 44$ in the form $(x - a)^2 + b$