Practice Question

Express $x^2 + 10x + 15$ in the form $(x+a)^2 - b$, where a and b are integers.

$(x+5)^2 - 25 + 15$

$(x+5)^2 - 10$

$(x+5)(x+5)$

$x^2 + 5x + 5x + 25$

$x^2 + 10x + 25$

Express $x^2 - 6x + 2$ in the form $(x-a)^2 - b$, where a and b are integers

$(x-3)^2 - 9 + 2$

$(x-3)^2 - 7$

Express $x^2 - 8x + 17$ in the form $(x-a)^2 + b$, where a and b are integers.

$(x-4)^2 - 16 + 17$

$(x-4)^2 + 1$

Worked example

Express $x^2 + 5x - 6$ in completed square form.

$(x + \frac{5}{2})^2 - \frac{25}{4} - 6$

follow the same rules of squaring and taking away the extra

Simplify

$(x + \frac{5}{2})^2 - \frac{25}{4} - \frac{24}{4}$

change to fraction

$(x + 5/2)^2 - \frac{49}{4}$

we follow the same process however 5 can't be split equally so were working with decimals.

Always leave as a fraction!