Algebraic Approach for Completing the Square

To complete the square we only need to work with the **$ax^2 + bx$** terms. Leave the "c" term till the very end.

Guidelines

1. a = 1 before you start, this can be accomplished by factoring

2. find half of the b term and then square it

3. add and subtract that value to the expression, writing the positive term first

4. the first three terms should make up a perfect square trinomial, and can be rewritten with brackets squared

Example $x^2 + 2x$

May 9-11:57 AM

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Example $x^2 - 2x + 5$

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Example $2x^2+16x$

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Example $2x^2+12x+7$

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$$-5x^2 - 20x + 7$$

May 16-12:51 PM

Challenge Time - mu ha ha

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$$x^2 + 5x$$

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$$x^2 - 7x$$

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$$3x^2 - 16x$$

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$$4.9x^2 - 98x + 10$$

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Find the vertex for the following:

$$y = 2x^2 + 10x - 5$$

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Try the given Task please.