**Completing the Square by creating Perfect Square Trinomials**

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**ALGEBRA 1** Chapter 12: Lesson 10

You are responsible for the material from the first 9 minutes and 24 seconds.

Factor the following trinomials

|  |  |  |
| --- | --- | --- |
| $$x^{2}+6x+9$$ | $$x^{2}-14x+49$$ | $$x^{2}+8x+16$$ |
|  $$( )^{2}$$ | $$( )^{2}$$ | $$( )^{2}$$ |
| What is the relationship between *b* and *c*? | What is the relationship between *b* and *c*? | What is the relationship between *b* and *c*? |

Determine the value of *c* to create a Perfect Square Trinomial and factor.

|  |  |  |
| --- | --- | --- |
| $$x^{2}+4x+c$$ | $$x^{2}-16x+c$$ | $$x^{2}-6x+c$$ |

You can use the method completing the square when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Build a perfect Square Trinomial and factor.

|  |  |  |
| --- | --- | --- |
| $$2x^{2}+8x$$ | $$3x^{2}-18x$$ | $$4x^{2}-48x$$ |

Practice your new skill on the back!

Factor the following perfect square trinomials.

|  |  |  |
| --- | --- | --- |
| $$x^{2}+10x+25$$ | $$x^{2}-18x+81$$ | $$x^{2}+22x+121$$ |

Determine what value of c will complete the square and Factor.

|  |  |  |
| --- | --- | --- |
| $$x^{2}-24x+c$$ | $$x^{2}+30x+c$$ | $$x^{2}-40x+c$$ |

Glue these notes into your notebook. We will be using this skill when we get back from break so make sure you look it over before class!

We will be converting Quadratic Functions from standard form ($y=ax^{2}+bx+c)$ to

vertex form $(y=a\left(x-h\right)^{2}+k$)

Enjoy your break!