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| --- | --- | --- |
| **Steps** | **Example #1**  **y = -2x2 – 4x + 3** | **Example #2**  **y = - 5x2 + 20x + 1** |
| **Common factor** the coefficient of the x2 term from the first two terms. **Do** **not** factor out the x. |  |  |
| **Divide** the coefficient of x by 2, and then **square** it. |  |  |
| **Add** and **subtract** that value inside the bracket of the equation two steps above. |  |  |
| Move the last term in the bracket to the outside of the bracket and **multiply** it with the number in front of the bracket. Add the two constants together. |  |  |
| Factor the perfect square trinomial inside the bracket. |  |  |
|  |  |  |
|  |  |  |
| **Now, determine the zeros:**  Set ***y*** = 0 |  |  |
| Remove the ***k*** |  |  |
| Remove the ***a*** |  |  |
| Square root – Don’t forget the **±** |  |  |
| Remove the ***h*** |  |  |

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| **Steps** | **Example #3**  **y = x2 – 6x + 5** | **Example #4**  **y = x2 – 2x + 1** |
| Common factor the coefficient of the x2 term from the first two terms. Do not factor out the x. |  |  |
| Divide the coefficient of x by 2, then square it. |  |  |
| Add and subtract that value inside the bracket of the equation two steps above. |  |  |
| Move the last term in the bracket to the outside of the bracket and multiply it with the number in front of the bracket. Add the two constants together. |  |  |
| Factor the perfect square trinomial inside the bracket. |  |  |
|  |  |  |
|  |  |  |
| **Now, determine the zeros:**  Set ***y*** = 0 |  |  |
| Remove the ***k*** |  |  |
| Remove the ***a*** |  |  |
| Square root – Don’t forget the **±** |  |  |
| Remove the ***h*** |  |  |

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| **Steps** | **Example #5**  **y = -3x2 – 6x** | **Example #6**  **y = -2x2 + 8x** |
| Common factor the coefficient of the x2 term from the first two terms. Do not factor out the x. |  |  |
| Divide the coefficient of x by 2, then square it. |  |  |
| Add and subtract that value inside the bracket of the equation two steps above. |  |  |
| Move the last term in the bracket to the outside of the bracket and multiply it with the number in front of the bracket. Add the two constants together. |  |  |
| Factor the perfect square trinomial inside the bracket. |  |  |
|  |  |  |
|  |  |  |
| **Now, determine the zeros:**  Set ***y*** = 0 |  |  |
| Remove the ***k*** |  |  |
| Remove the ***a*** |  |  |
| Square root – Don’t forget the **±** |  |  |
| Remove the ***h*** |  |  |