

Revisiting Factoring Quadratics - Example 4

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

▶ The Quadratic Formula gives us a way to find the roots r_1 and r_2 of $x^2 + 4x - 21$

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

▶ The Quadratic Formula gives us a way to find the roots r_1 and r_2 of

$$x^2 + 4x - 21$$

▶ We can find the roots to be:

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

▶ The Quadratic Formula gives us a way to find the roots r_1 and r_2 of

$$x^2 + 4x - 21$$

▶ We can find the roots to be: $r_1, r_2 = -2 + \sqrt{3}, -2 - \sqrt{3}$

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

▶ The Quadratic Formula gives us a way to find the roots r_1 and r_2 of

$$x^2 + 4x - 21$$

▶ We can find the roots to be: $r_1, r_2 = -2 + \sqrt{3}, -2 - \sqrt{3}$

So, we get the factored form:

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

▶ Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

▶ The Quadratic Formula gives us a way to find the roots r_1 and r_2 of

$$x^2 + 4x - 21$$

▶ We can find the roots to be: $r_1, r_2 = -2 + \sqrt{3}, -2 - \sqrt{3}$

So, we get the factored form:

$$x^2 + 4x + 1 = \left(x - \left(-2 + \sqrt{3}\right)\right) \cdot \left(x - \left(-2 - \sqrt{3}\right)\right)$$

Revisiting Factoring Quadratics - Example 4

Example: Write the quadratic in factored form:

$$x^2 + 4x + 1 = (x - r_1) \cdot (x - r_2)$$

► Recall: We can factor quadratics in this slightly different way as long as we can find the roots r_1 and r_2

► The Quadratic Formula gives us a way to find the roots r_1 and r_2 of

$$x^2 + 4x - 21$$

► We can find the roots to be: $r_1, r_2 = -2 + \sqrt{3}, -2 - \sqrt{3}$

So, we get the factored form:

$$x^2 + 4x + 1 = \left(x - \left(-2 + \sqrt{3}\right)\right) \cdot \left(x - \left(-2 - \sqrt{3}\right)\right)$$

Notice that even though we have a very messy factorization, we can still find it this way!