

REVIEW DAY! – QUADRATIC METHODS

- *GET OUT NOTEBOOKS AND PENCIL*
- *NO BELL RINGER!*

CRITICAL JUDGMENTS OF A QUADRATIC

SOLVING WITH QUADRATIC METHODS:

REVIEWING QUADRATIC METHODS

DIFFERENT METHODS

- *FACTORING*
- *COMPLETING THE SQUARE*
- *QUADRATIC FORMULA*

REVIEWING FACTORING

- *FACTORS OF A QUADRATIC ARE IN THE FORM OF $(AX+B)*(CX+D)$.*
- *IF A,B,C, AND D ARE INTEGERS, THEN SOLUTIONS WILL COME FAST.*
- *SOLUTIONS ARE THE X VALUES*
- *CANNOT FIND SOLUTIONS THAT ARE NOT INTEGERS*

FACTORING EXAMPLE

- *FACTOR THE FOLLOWING AND FIND THE SOLUTIONS:*
- $x^2 + 2x + 1$
- *FACTORS: $(x+1)(x+1)$*
- *SOLUTION: $x = -1$*

REVIEWING COMPLETING THE SQUARE

- *[HTTPS://YOUTU.BE/DQMYANIACIY](https://youtu.be/dqmyaniacy)*
- *ALWAYS WORKS!*

COMPLETING THE SQUARE EXAMPLE

$$x^2 - 3x = 18$$

$$x^2 - 3x + \square = 18 + \square$$

$$x^2 - 3x + \frac{9}{4} = 18 + \frac{9}{4}$$

$$x^2 - 3x + \frac{9}{4} = \frac{81}{4}$$

$$\left(x - \frac{3}{2}\right)^2 = \frac{81}{4}$$

$$x - \frac{3}{2} = \pm \frac{9}{2}$$

$$x = \frac{3}{2} + \frac{9}{2} = \frac{12}{2} = 6$$

$$x = \frac{3}{2} - \frac{9}{2} = \frac{-6}{2} = -3$$

SOLUTIONS FOR

$$x^2 - 3x = 18:$$

$$X = 6$$

$$X = -3$$

REVIEWING THE QUADRATIC FORMULA

- *EQUATIONS WILL BE IN THE FORM: $ax^2 + bx + c = 0$*
- *QUADRATIC FORMULA:*
- $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- *ALWAYS WORKS! MOST STRAIGHTFORWARD METHOD!*

QUADRATIC FORMULA EXAMPLE

- $x^2 + 2x - 4$

- *STANDARD FORM: $x^2 + 2x - 4 = 0$*

$$x_1 = \frac{-2 - \sqrt{2^2 - 4 \times 1 \times (-4)}}{2 \times 1} = \frac{-2 - 2 \times \sqrt{5}}{2} \approx -3.236$$

$$x_2 = \frac{-2 + \sqrt{2^2 - 4 \times 1 \times (-4)}}{2 \times 1} = \frac{-2 + 2 \times \sqrt{5}}{2} \approx 1.236$$

SOLUTIONS:

$$X = -3.236$$

$$X = 1.236$$

GEOGEBRA REVIEW

- *FACTORIZING: [HTTPS://WWW.GEOGEBRA.ORG/M/QBHXBVK8](https://www.geogebra.org/m/QBHXBVK8)*
- *COMPLETING THE SQUARE: [HTTPS://WWW.GEOGEBRA.ORG/M/GSFFNWVG](https://www.geogebra.org/m/GSFFNWVG)*
- *QUADRATIC FORMULA: [HTTPS://WWW.GEOGEBRA.ORG/M/K2MAV7ER](https://www.geogebra.org/m/K2MAV7ER)*

EXIT TICKET

- *PICK UP TAKE HOME REVIEW ON YOUR WAY OUT!*
- *TURNED IN COMPLETED = +5 POINTS ON TEST!*