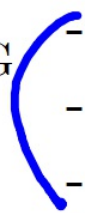

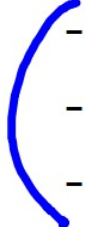


Which algebra topics are we reviewing?

- reviewing/previewing algebra topics

ALG A  - solving quadratics  ← today's skill
- completing the square
- finding roots with a calculator

ALG B  - solving/graphing compound inequalities
- solving absolute value equations
- solving linear system of equations

-

What is algebra?

el gebre

al-jabr "the completion"

= r b j i a

$i^2 = -1$

Leonhard Euler

$$x - 10 = 0$$

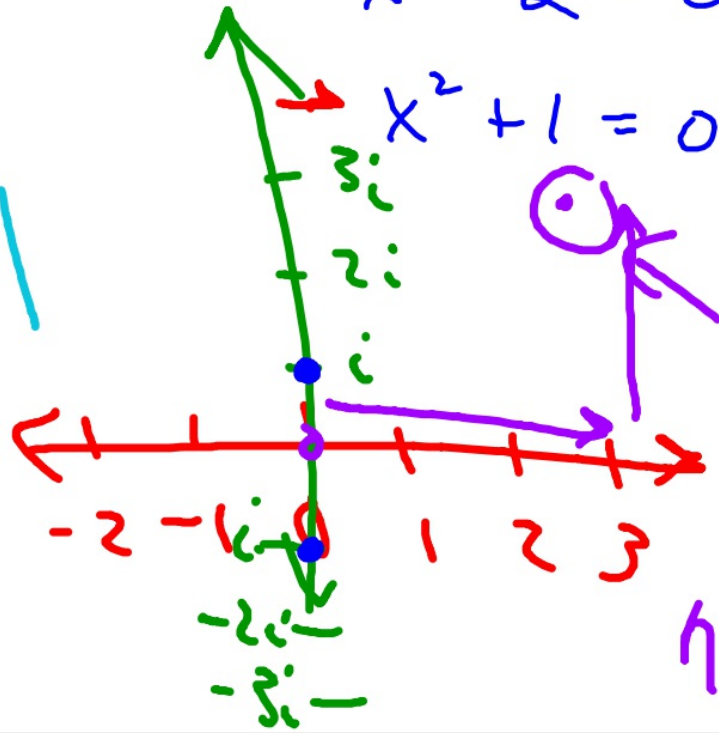
$$4x - 3 = 0$$

$$x^2 - 2 = 0$$

$$x^2 = 2$$

$$x = \pm\sqrt{2}$$

$$x^2 + 1 = 0$$



$x = \pm\sqrt{-1}$
 $x = \pm i$
Complex number

Find all real solutions.

$$x^2 - 6x - 16 = 0$$

$$(x + 2)(x - 8) = 0$$

$$x^2 - 8x + 2x - 16$$

$$(x + 2)(x - 8) = 0$$

$$x + 2 = 0$$

$$x = -2$$

$$x - 8 = 0$$

$$x = 8$$

quadratic trinomial.

① Split into 2 binomials

② Factor the constant term

$$\begin{array}{r} 1, 16 \\ 2, 8 \\ 4, 4 \end{array}$$

③ Figure which pair + or - to give the x-coefficient.
3.5 Check by mult.

④ Set each binomial = 0, solve.

Another:

$$x^2 + 5x - 14 = 0$$

$$(x + 7)(x - 2) = 0$$

$$\begin{aligned} &\downarrow \\ x + 7 &= 0 \\ \underline{\underline{x = -7}} \end{aligned}$$

$$\begin{aligned} &\downarrow \\ x - 2 &= 0 \\ \underline{\underline{x = 2}} \end{aligned}$$

$$\begin{aligned} 14: & 1, 14 \\ & \underline{\underline{2, 7}} \\ & 7 - 2 \end{aligned}$$

HW: see classroom/weebly

$$x^2 + 12x = -35$$

$$x^2 + 12x + 35 = 0$$

$$(x + 5)(x + 7) = 0$$

$$x + 5 = 0$$

$$\underline{x = -5}$$

$$x + 7 = 0$$

$$\underline{x = -7}$$

move all terms over to same side first!
trinomial must equal zero

$$35: \begin{matrix} 1, 35 \\ 5, 7 \end{matrix}$$