Good afternoon: no warm up; soon after the bell rings we will randomize

have your notebooks out please, we will start our Algebra (p)review

Turn in EOC packets into the basket
completion grade; due 5 min after bell rings

Reminders
- last ever assessment: Monday 5/14
- tutoring/retakes tomorrow 4-5p
- retakes available in DS

What are we doing for the remainder of the year?

- reviewing/previewing algebra topics
    - solving quadratics
    - completing the square
    - finding roots with a calculator
    - solving/graphing compound inequalities
    - solving absolute value equations
    - solving linear system of equations

- unusual/fun/mind bending math topics
    - 0.99999..=1?
    - 4+ dimensional objects
    - topology: flexible geometry
    - Mobius loops
    - Types of infinity
    - Paradoxes

What is algebra?

el gebra

al-jabr "the completion"

$x^2 - 9 = 0$

$x - 10 = 0$

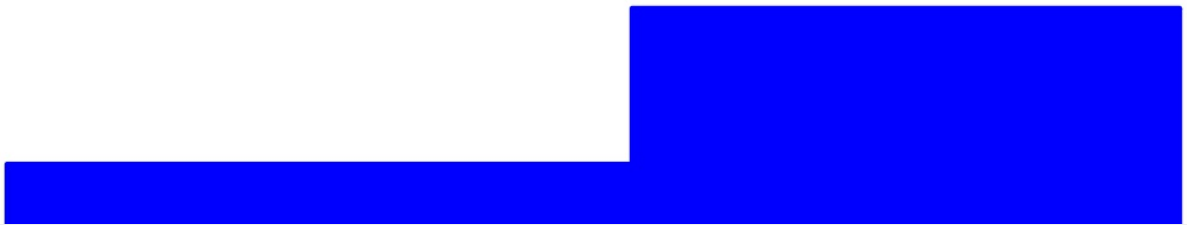
$4x - 3 = 0$

$x^2 - 2 = 0$ → $x^2 = 2$, $x = \pm\sqrt{2} \approx \pm 1.414$

$x^2 + 1 = 0$

$\sqrt{x^2} = \sqrt{-1}$

$x = i = \sqrt{-1}$



$x^2-81=0$

$+81 \quad +81$

$\sqrt{x^2}=\sqrt{81}$

$x=\pm 9$

$x^2-81=0$

$(x-9)(x+9)=0$

$x-9=0 \qquad x+9=0$

$x=9 \qquad x=-9$

What do you know about this?

- Variable
- equals zero
- $\pm$
- $\sqrt{\ }$
- perfect square! 1, 4, 9, 16, 25
- Quadratic Eq.

Find all real solutions.

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

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

Check:

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

$x^2-6x-16$ ☺

$x-8=0$

$x=8$

$x+2=0$

$x=-2$

① what are the factors of 16?

~~4, 4~~ · ~~1, 16~~

· 8, 2

② of these pairs, which have a sum/difference of −6

Find all real solutions.

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

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

Check:

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

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

$x^2-6x-16$ ∴

$x-8=0$

$x=8$

$x+2=0$

$x=-2$

Quadratic Trinomial

① Factor trinomial into 2 binomials.

② List out the factor pairs of 16.

~~4, 4~~ ~~1, 16~~

2, 8

③ Find which pair has a sum/diff. of 6.

④ Set factors = 0, solve.

Another: Solve by factoring:

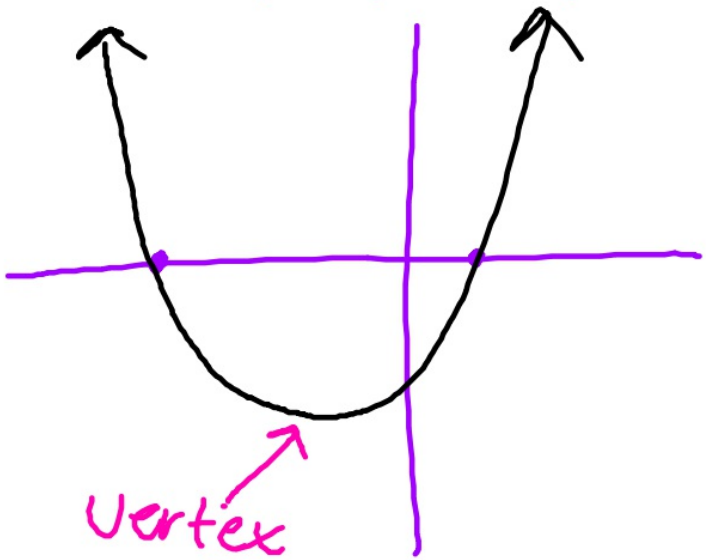
$x^2+5x-14=0$

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

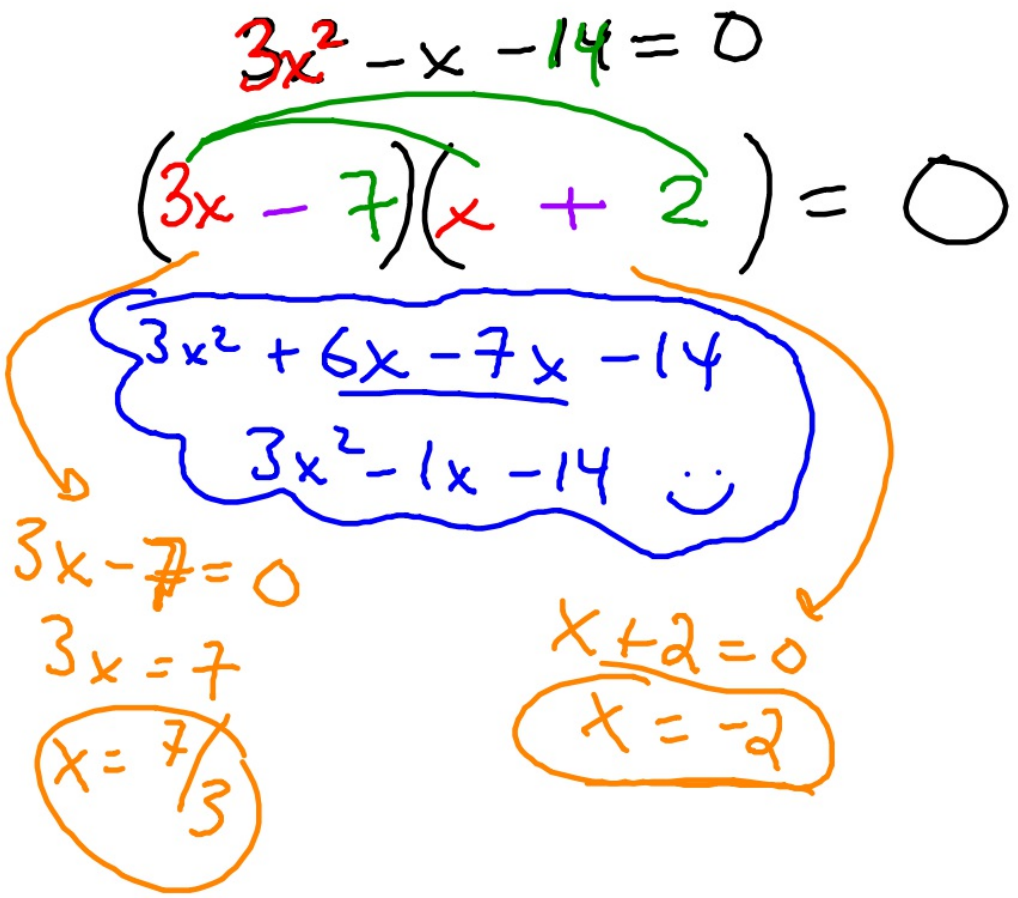
$x+7=0$ $\quad$ $x-2=0$

$x=-7$ $\quad$ $x=2$

14: 1, 14; 2, 7;



Find all values of x such that $3x^2-x=14$



Standard form

$Ax^2+Bx+C=0$

$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

14: 7,2; 1,14

HW

Watch and take notes on the video at mgeo.weebly.com.