

X intercept are called = roots
 Solutions
 Zeros
 x-intercepts

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My favorite weekend activity would have to be going to the lake and going on my boat or just watching my favorite netflix show.

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SWBAT...

Begin to understand the need for complex number solutions.

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

USE when to find x-intercepts

simplify answer more: (ex) $\frac{-4 \pm \sqrt{8}}{2}$

In factored form

$(x + 2 \pm \sqrt{2})$

$\frac{-4 \pm \sqrt{8}}{2}$
 $-2 \pm \frac{\sqrt{8}}{2}$

$-2 \pm \sqrt{2}$

Factored form
 $(x + 2 + i\sqrt{2})$
 $(x + 2 - i\sqrt{2})$

imaginary numbers are the square roots of negative numbers. when there is no x-intercepts

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

(ex) $\frac{-4 \pm \sqrt{-8}}$

$\frac{-4 \pm \sqrt{-8}}{2} \rightarrow \frac{-4 \pm \sqrt{4 \cdot 2 \cdot -1}}{2} \rightarrow \frac{-4 \pm 2i\sqrt{2}}{2}$

$-2 \pm i\sqrt{2}$