

Finding Real Zeros

Review: standard form/general form

$$ax^2 + bx + c$$

factored form

$$a(x-r_1)(x-r_2)$$

Ex $2x^2 - 8x - 24$

$$2(x^2 - 4x - 12)$$

$$\begin{array}{l} 1, -12 \\ 2, -6 \end{array}$$

$$2(x-6)(x+2)$$

"Zero" of a function is when $f(x) = 0$ ($y = 0$)
"root" "x-intercept"

- ① Make sure the function is in standard form and set it equal to 0

$$x^2 = 11x - 24$$

$$x^2 - 11x + 24 = 0$$

- ② Put in factored form $(x-3)(x-8) = 0$

- ③ Set the binomials equal to 0

$$x-3=0$$

$$x-8=0$$

zero product property:

If a product is zero then at least one factor must be zero

$x=3$	$x=8$
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- ④ Solve \rightarrow the answers are the "zeros" or "roots"