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Warm-up 3/12

Given the vertex $(-2, -6)$ and $a = 1$. State the equation in:

vertex form: $f(x) = a(x-h)^2 + k$

$f(x) = (x+2)^2 - 6$

standard form: $f(x) = (x+2)(x+2) - 6$

$f(x) = x^2 + 4x + 4 - 6$

$f(x) = x^2 + 4x - 2$

Solve for the zeros:

$0 = (x+2)^2 - 6$

$+6 \quad +6$

$\sqrt{6} = \sqrt{(x+2)^2}$

$\pm\sqrt{6} = x + 2$

$-2 \quad -2$

$-2 \pm \sqrt{6} = x$ ← zeros

$a = 1$
$b = 4$
$c = -2$

What is the discriminant?

$b^2 - 4ac$

$(4)^2 - 4(1)(-2)$

$16 + 8$

24 ← 2 irrational unequal roots