Math 20-1

KEY

L44 – FQ – 7.3 Basics of Absolute Value Equations

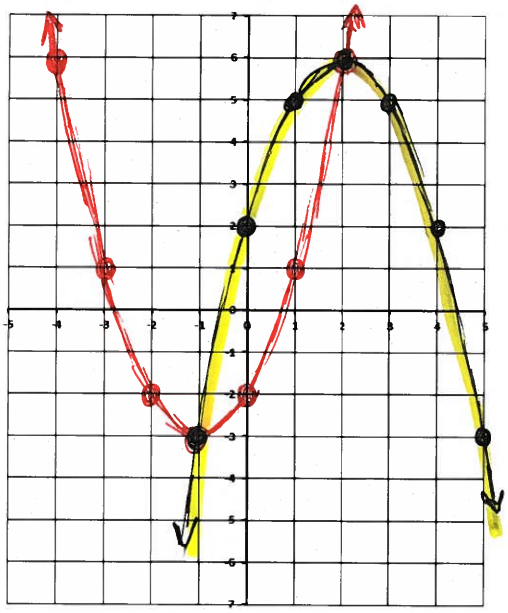
We're going to solve the equation $|x^2 + 2x - 2| = -x^2 + 4x + 2$

Q1: Graph the following:

$y = x^2 + 2x - 2$

$y = -x^2 + 4x + 2$

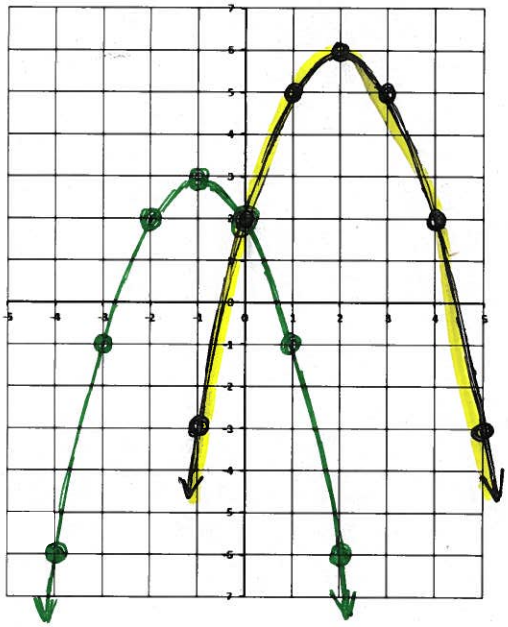
Solns: $x = -1$, $x = 2$



Q2: Graph the following:

$y = -x^2 - 2x + 2$ Solns: $x = 0$

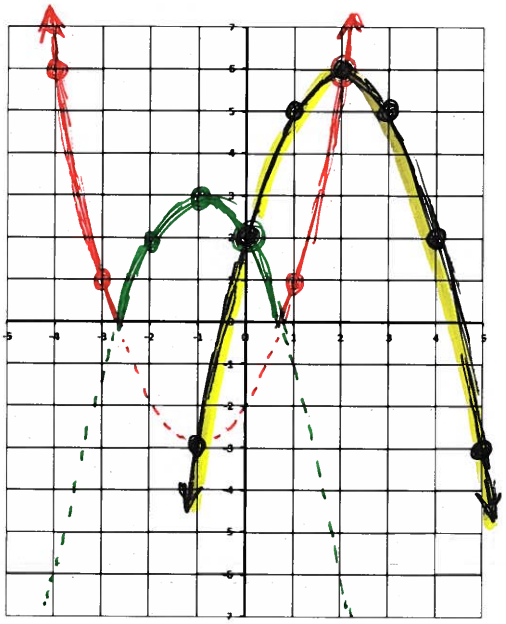
$y = -x^2 + 4x + 2$



Q3: Graph the following:

$y = |x^2 + 2x - 2|$

$y = -x^2 + 4x + 2$



Solns: $x = 0, 2$

$x = -1$ didn't verify.

FYI, piecewise function of $y = |x^2 + 2x - 2|$ would be

$y = x^2 + 2x - 2$ for $x \leq -2.73$, $x \geq 0.73$

$y = -x^2 - 2x + 2$ for $-2.73 < x < 0.73$