8.1 Polynomial Inequalities

~~Essential Question~~

How do I solve polynomial inequalities using a sign chart?

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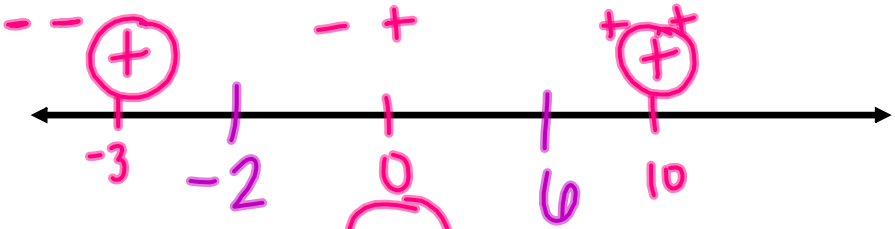
1. $x^2 - 4x - 12 \leq 0$ neg.

$(x-6)(x+2) \leq 0$

zeros: $6, -2$



$[-2, 6]$

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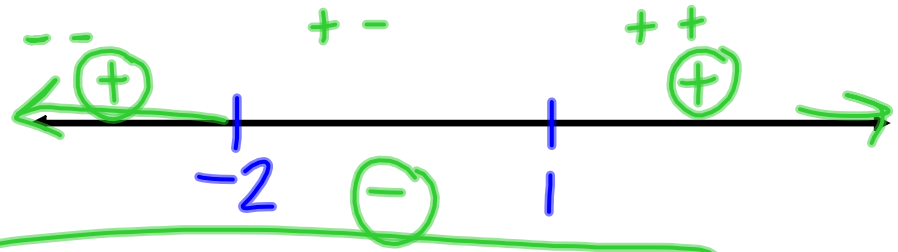
2. $x^2 + x + 3 > 5$ (pos.)

$x^2 + x - 2 > 0$

$(x+2)(x-1) > 0$



$(-\infty, -2) \cup (1, \infty)$

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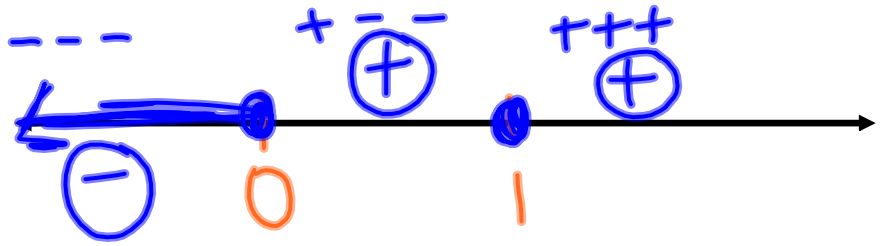
3. $x^3 - 2x^2 + x \leq 0$ (neg)

$x(x^2 - 2x + 1) \leq 0$

$x(x-1)(x-1) \leq 0$



$(-\infty, 0] \cup [1]$