

Solving Quadratic Inequalities

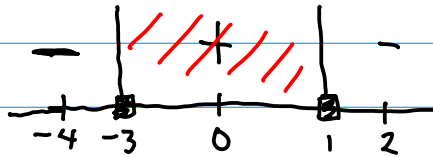
Method:

1. Bring everything to the left, so that 0 remains on the right.
2. Pretend you're solving a usual quadratic equation with an "=".
3. Use a number line to determine where the inequality is satisfied.

eg Solve $-x^2 - 2x + 3 > 0$

① Done ② $-x^2 - 2x + 3 = 0 \Rightarrow (-x+1)(x+3) = 0$
 $X=1$ or $X=-3$

③ $-x^2 - 2x + 3 > 0$



test points	-4	0	2
$-x^2 - 2x + 3$	-5	3	-5

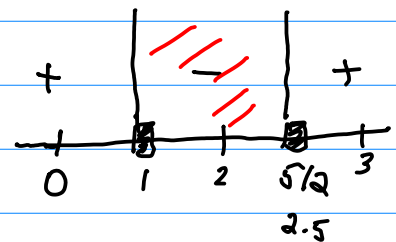
\Rightarrow Solution: $x > -3, x < 1$
or $-3 < x < 1$

eg $2x^2 \leq 7x - 5$ ① $2x^2 - 7x + 5 \leq 0$

② $2x^2 - 7x + 5 = 0$ solve $\Rightarrow (x-1)(2x-5) = 0 \Rightarrow X=1, \text{ or } X=5/2$

③

test	0	2	3
$2x^2 - 7x + 5$	5	-1	2



$\Rightarrow x \geq 1$ and $x \leq 5/2$

\Rightarrow or $1 \leq x \leq 5/2$