

Ext: Solve $x^2 - 9 \geq 0$

non-strict!

strict: $>, <$
non-strict: \geq, \leq

Step 1: **Finding zeroes**

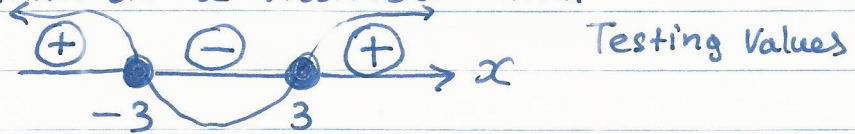
Define a fun-n: $f(x) = x^2 - 9$

Factor to find zeroes: $f(x) = (x-3)(x+3)$

set $f(x) = 0$

$(x-3)(x+3) = 0 \Rightarrow$ ZPP: $x-3=0$ or $x+3=0$
 $x=3$ or $x=-3$

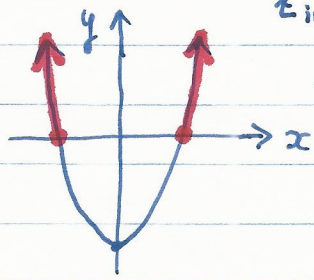
Step 2: Assemble graphable x -values and place them on a number line:



Step 3: Record: $x \leq -3$ or $x \geq 3 \leftarrow$ inequality

Interval notation $x \in (-\infty, -3] \cup [3, +\infty)$
 \uparrow inclusion

Solving Graphically:



$f(x) = x^2 - 9$
is an even function.