12 a) $f(x) = 2(x-1)^2 - 2$

$f(x) \geq 0$ } Sign
$f(x) \leq 0$ }

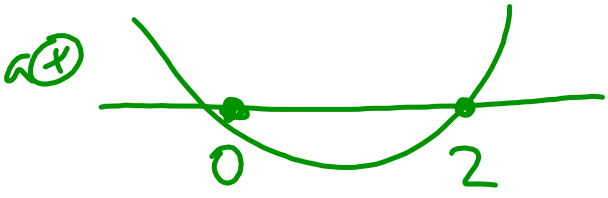
① Zeros

$-\frac{k}{a} = \frac{-(-2)}{2} = 1$

a ⊕

$x_1 = 1 - \sqrt{1}$
$= 1 - 1$
$= 0$

$x_2 = 1 + \sqrt{1}$
$= 1 + 1$
$= 2$



$f(x) \geq 0$
$]-\infty, 0] \cup [2, \infty[$

$f(x) \leq 0$ over $[0, 2]$