Exact Penalty Function

$Q(x; \mu) = x + \mu \max(0, -x)$

letting $\mu > 1$

if $x > 0 \Rightarrow Q(x) = x$

if $x < 0 \Rightarrow Q(x) = x - \mu x > 0$

if $x = 0 \Rightarrow Q(x) = 0$

$\therefore$ the minimizer of Q is $x = 0$, which is feasible in the constrained problem (3)

$\therefore$ the non-squared penalty function is exact