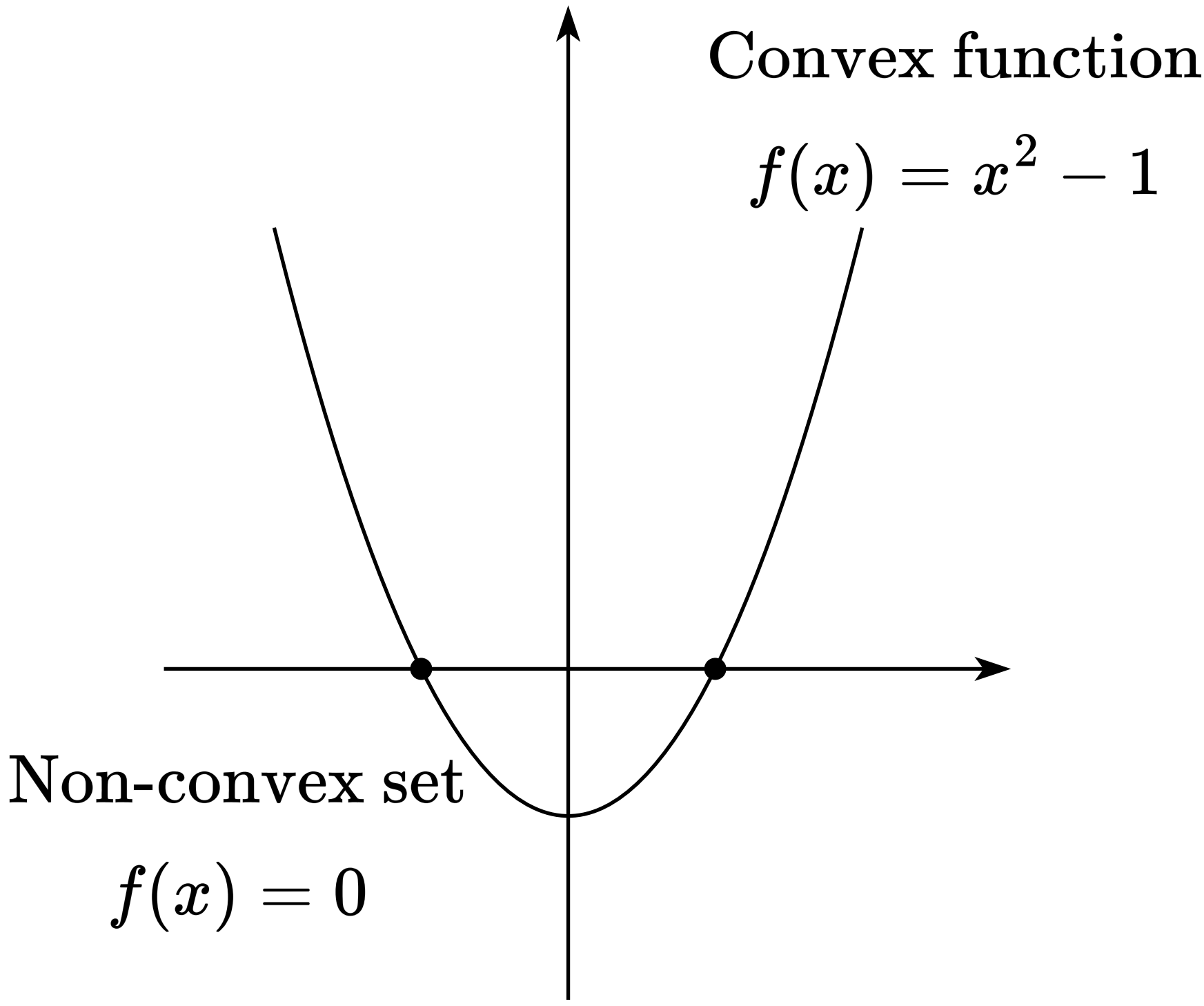
Convex function
$f(x) = x^2 - 1$
Non-convex set
$f(x) = 0$