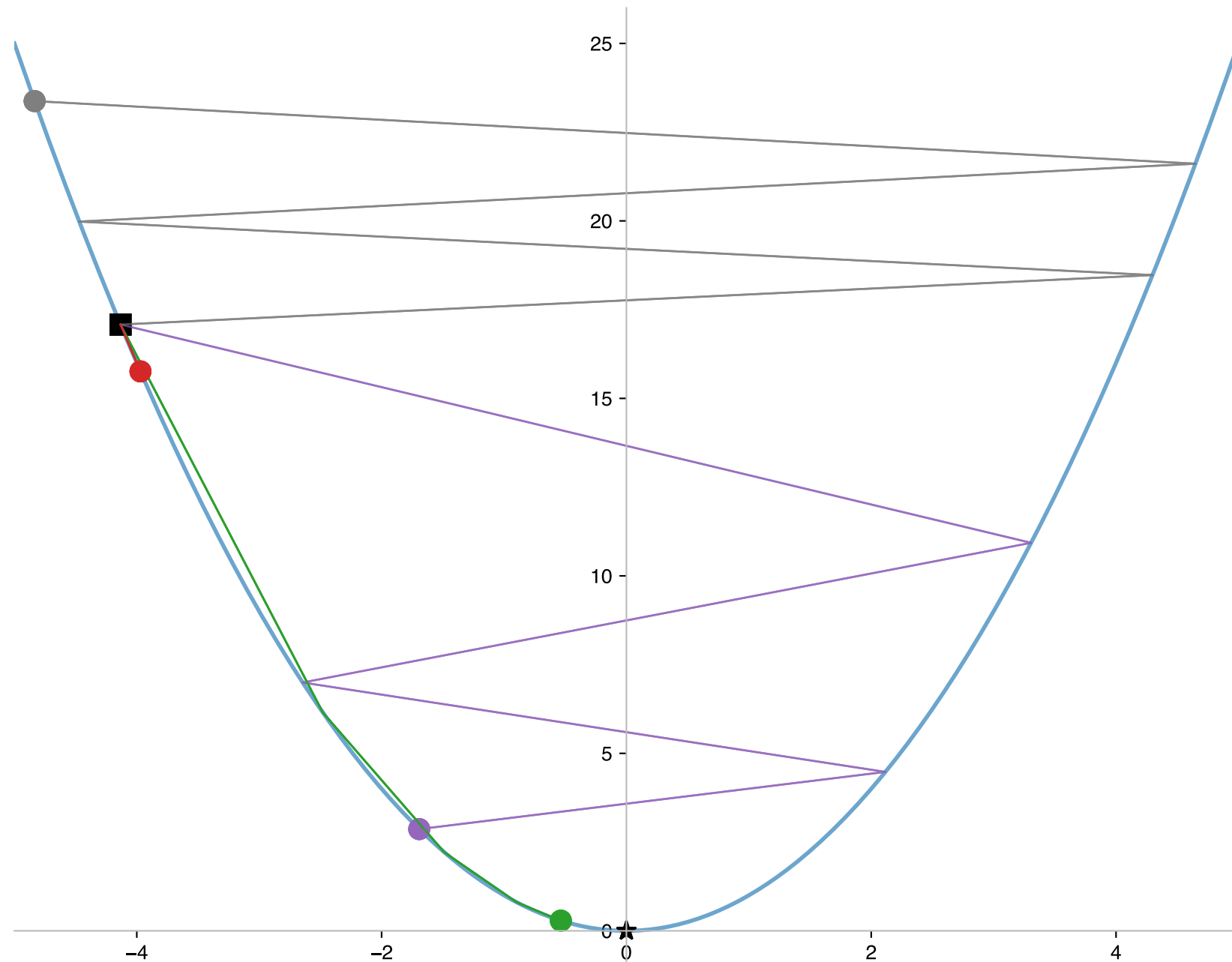$f(x) = x^2$

Effect of Step Size

Iteration $k = 5$

$\alpha_1 = 0.005$
$\alpha_2 = 0.200$
$\alpha_3 = 0.900$
$\alpha_4 = 1.0200$

$x^* = 0.0$

$x_5 = -3.970$
$x_5 = -0.536$
$x_5 = -1.693$
$x_5 = -4.835$

x_k vs. k