**Graphs’ explanations**

Rosenbrock with gradient descent

The convergence rate is linear with .

Quadratic H\_well with gradient descent

The convergence rate is linear with .

Quadratic H\_ill with gradient descent

The convergence rate is linear with .

Rosenbrock with newton

The convergence rate is linear with .

Quadratic H\_well with newton

The function to minimize using newton method is quadratic, therefore a second order Taylor expansion of the function is the function itself. Therefor after one iteration pf the algorithm we have found the value that minimizes that quadratic function.

Quadratic H\_ill with newton

The function to minimize using newton method is quadratic, therefore a second order Taylor expansion of the function is the function itself. Therefor after one iteration pf the algorithm we have found the value that minimizes that quadratic function.