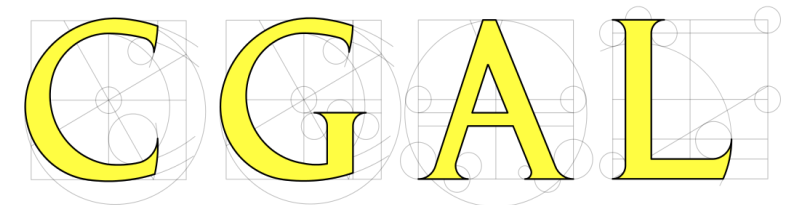
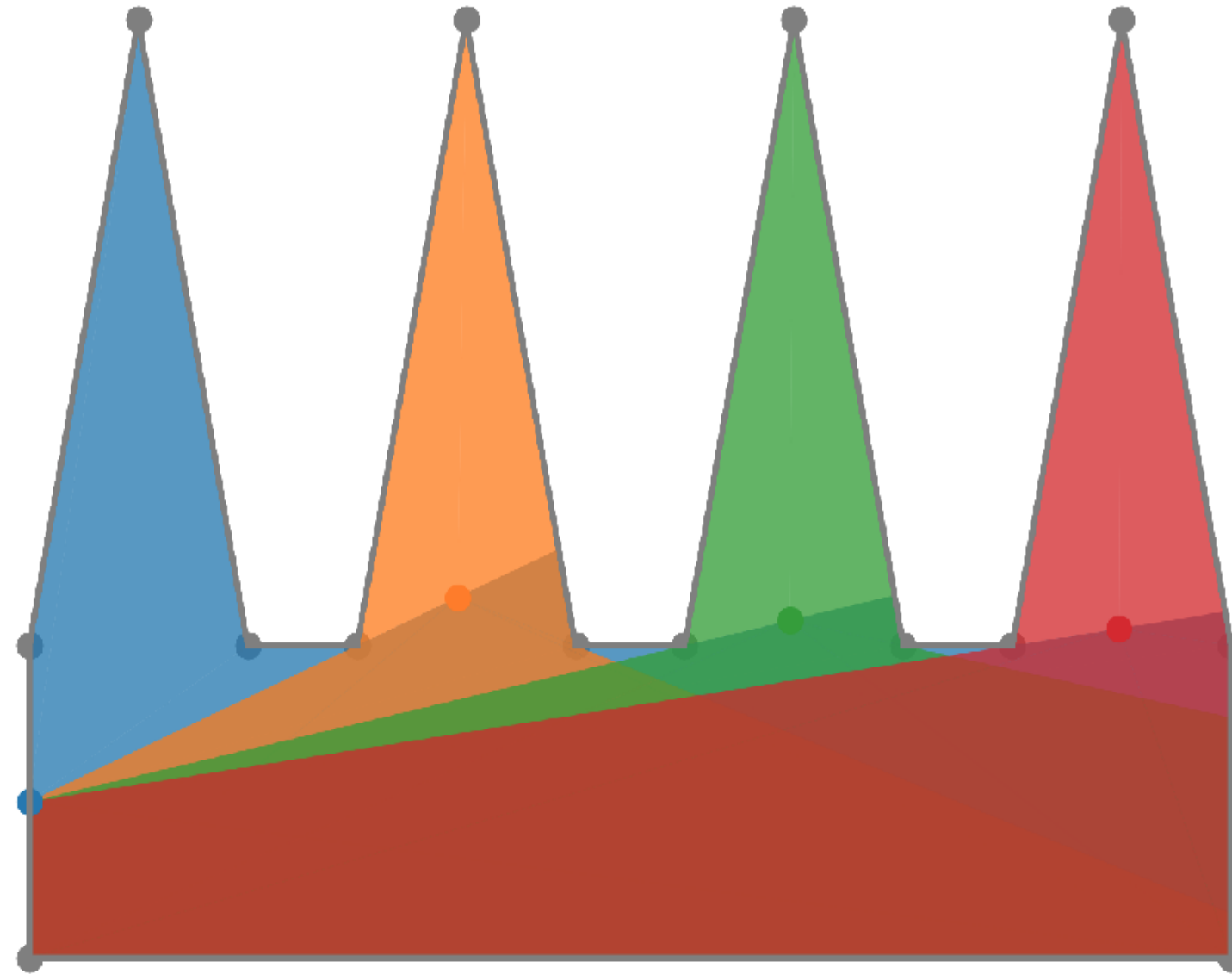


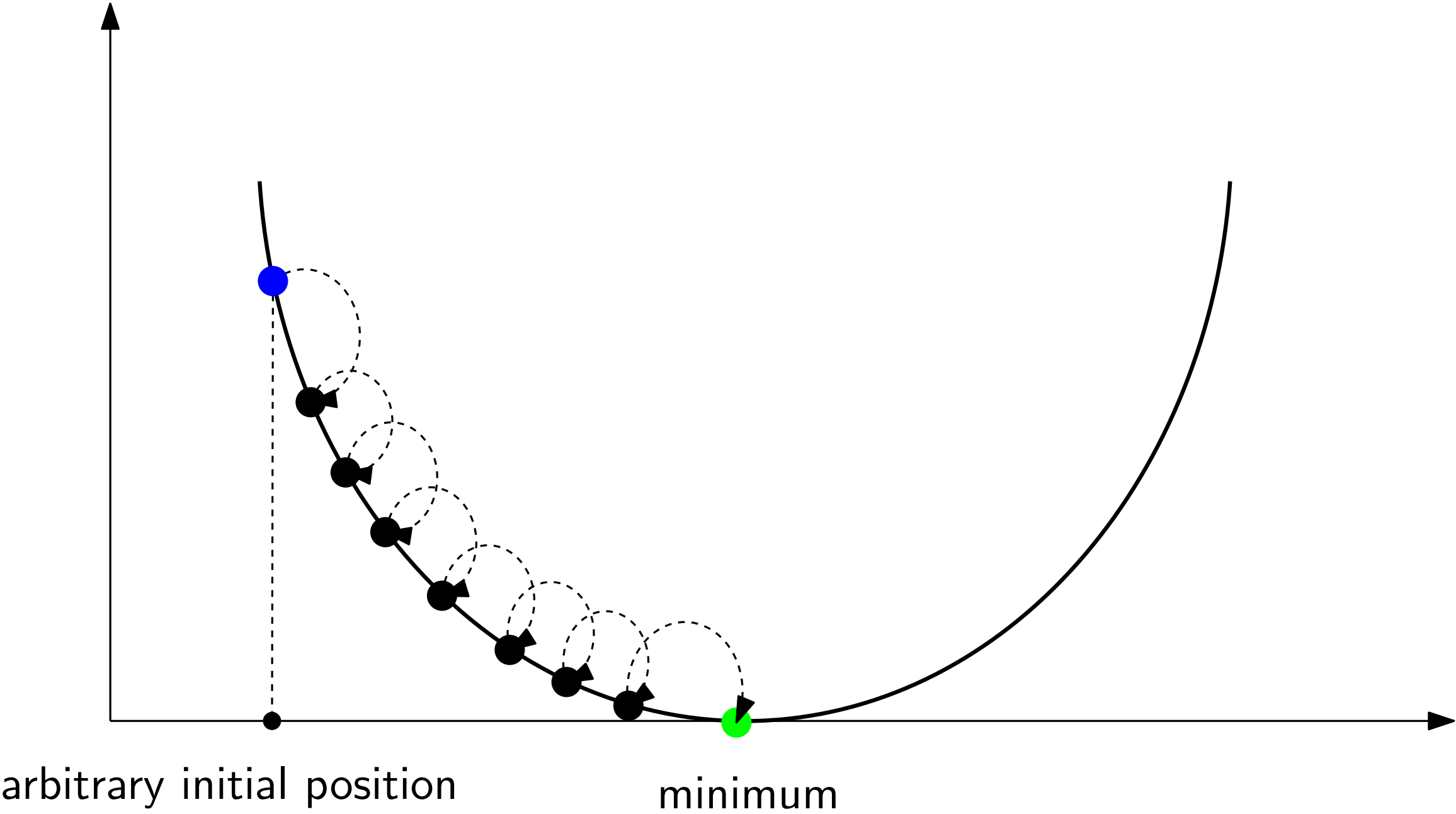
# Solving the Art Gallery Problem Using Gradient Descent

Geo Juglan

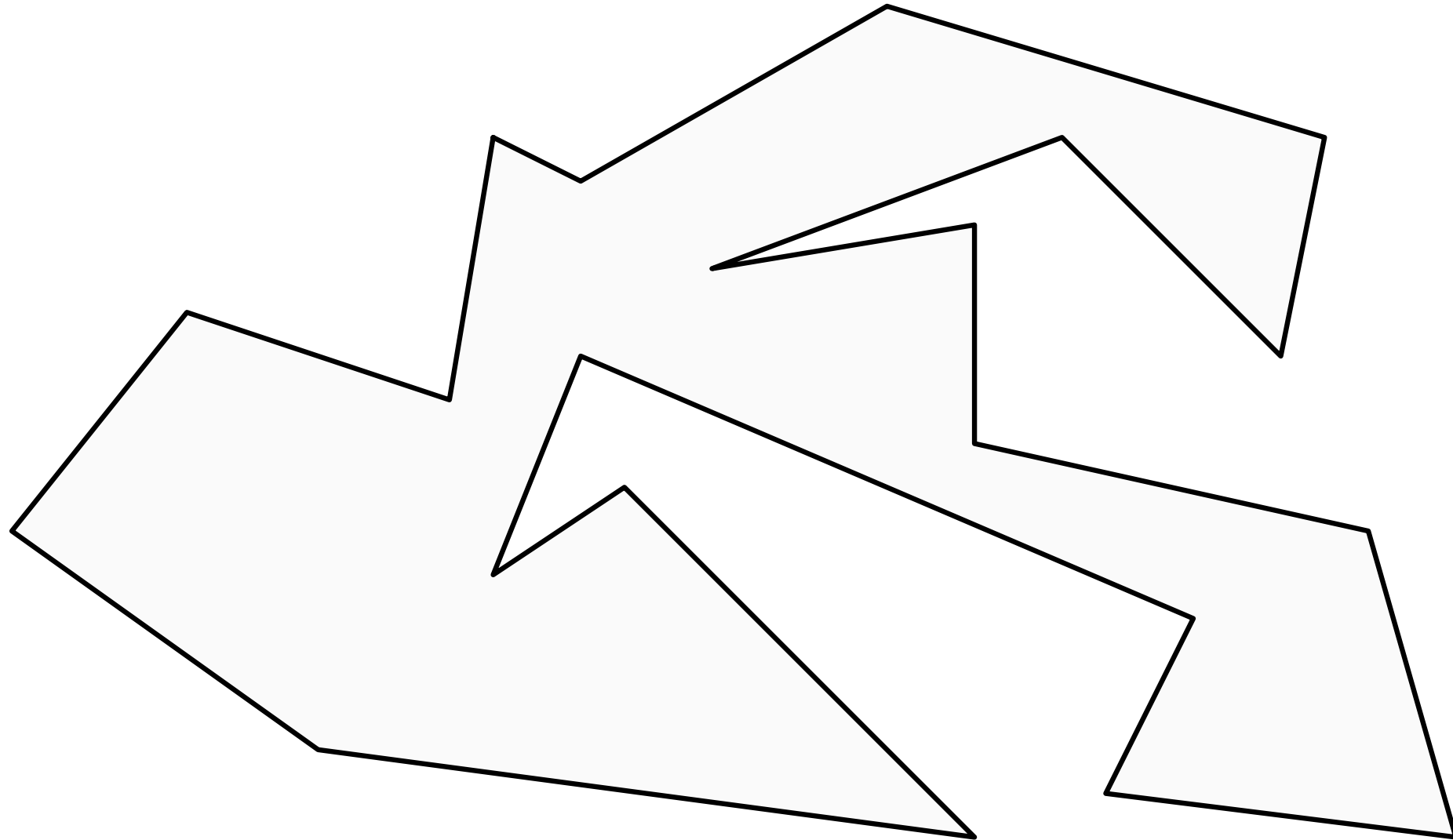
Till Miltzow



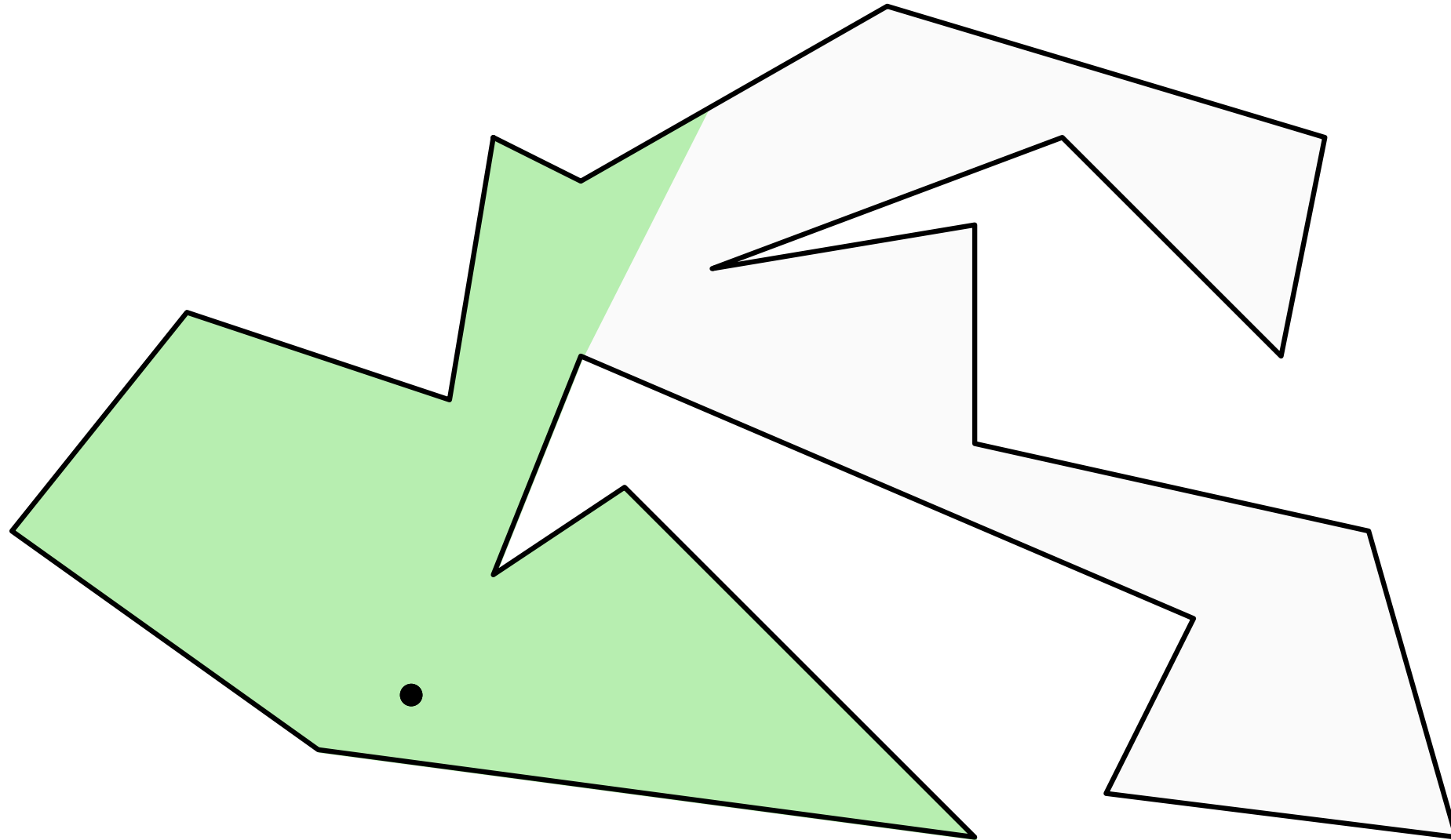
# Gradient Descent



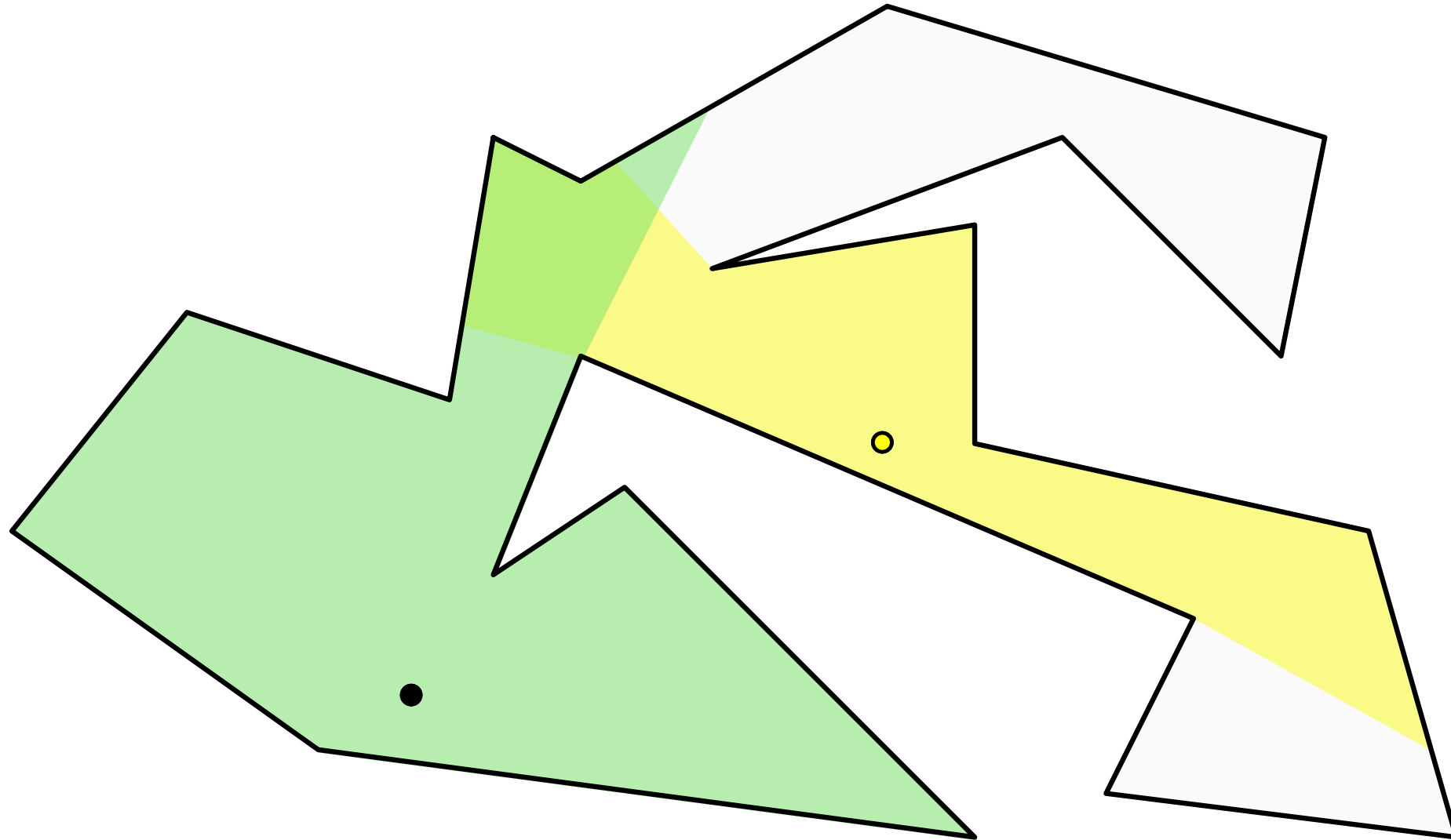
# The Art Gallery Problem



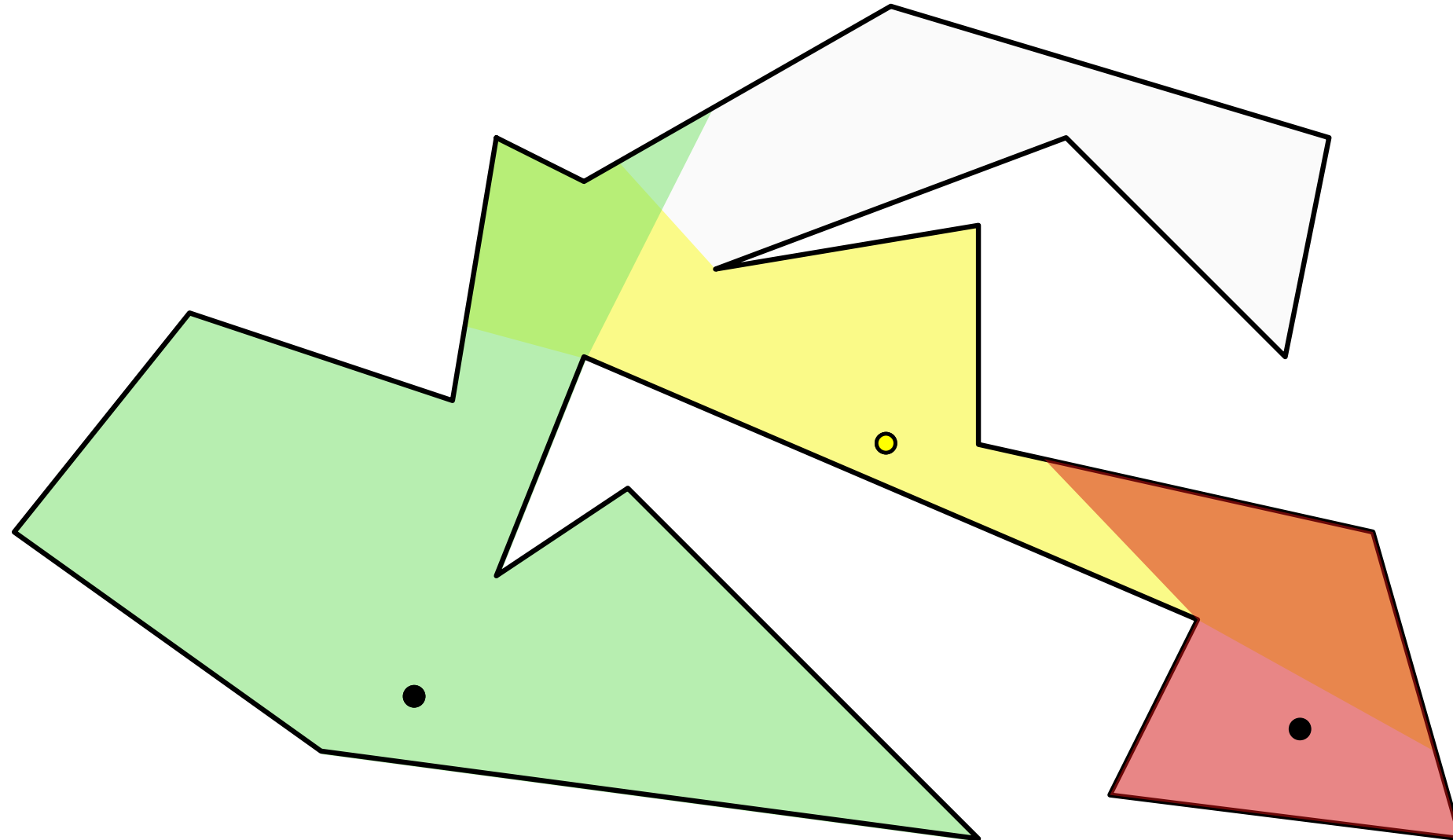
# The Art Gallery Problem



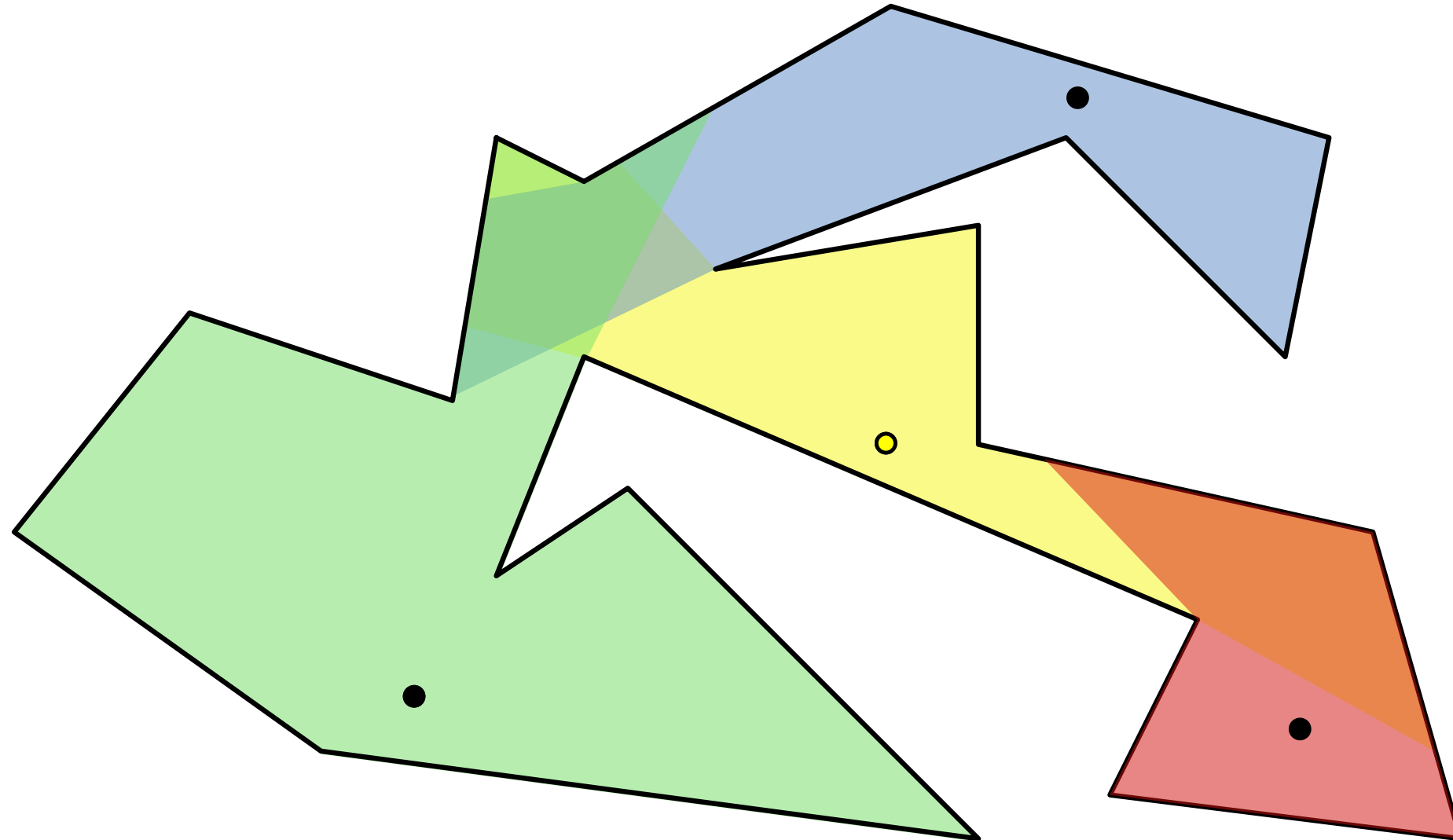
# The Art Gallery Problem



# The Art Gallery Problem

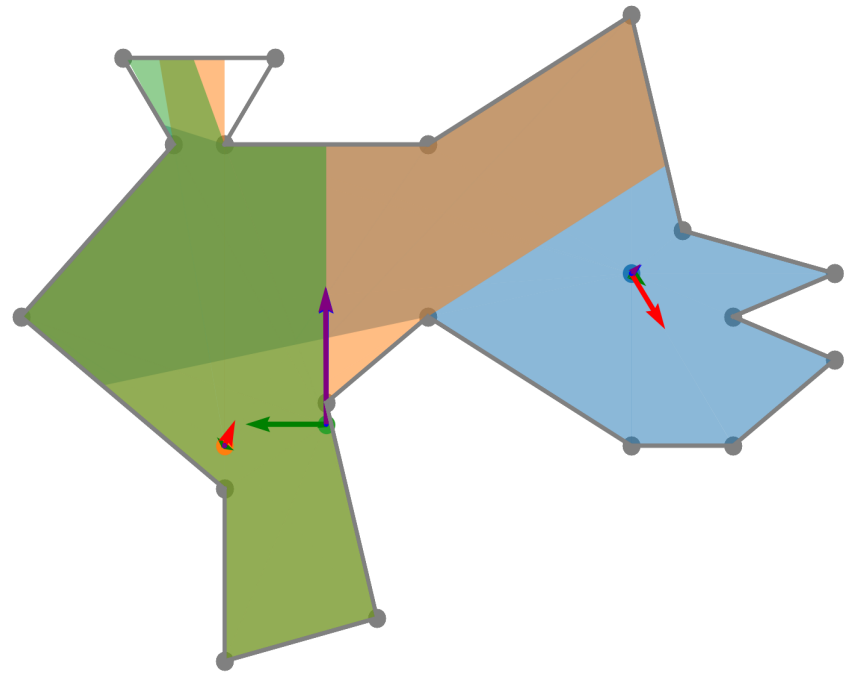


# The Art Gallery Problem



# The Art Gallery Problem

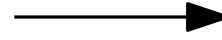
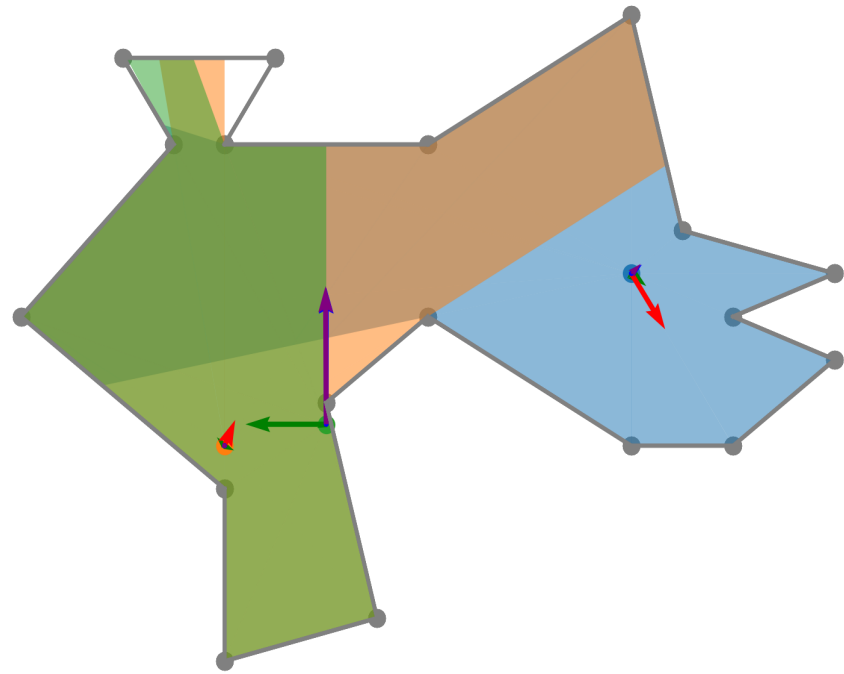
### Gradient Computation for Iteration #0



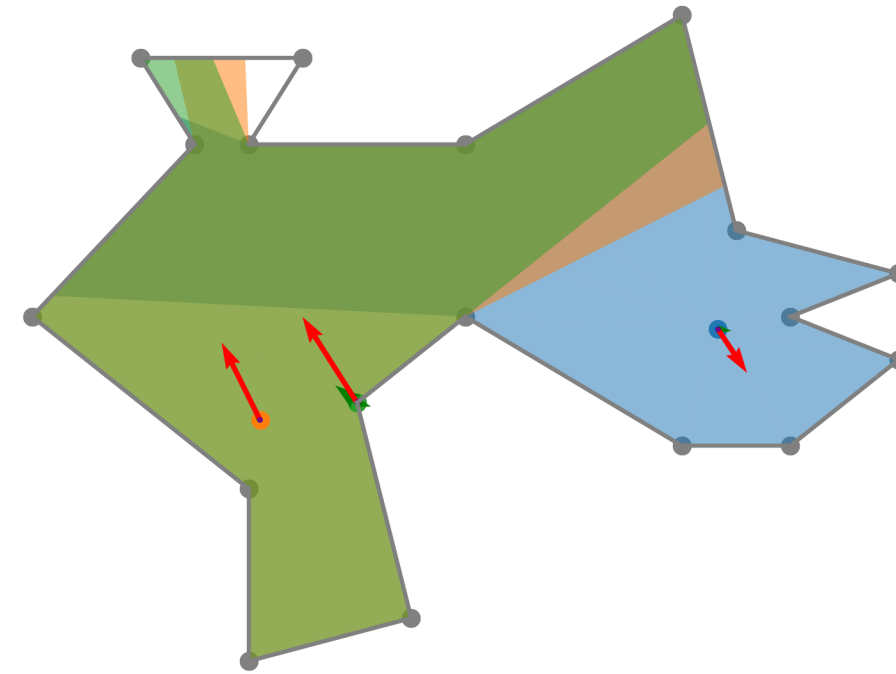


# The Art Gallery Problem

Gradient Computation for Iteration #0

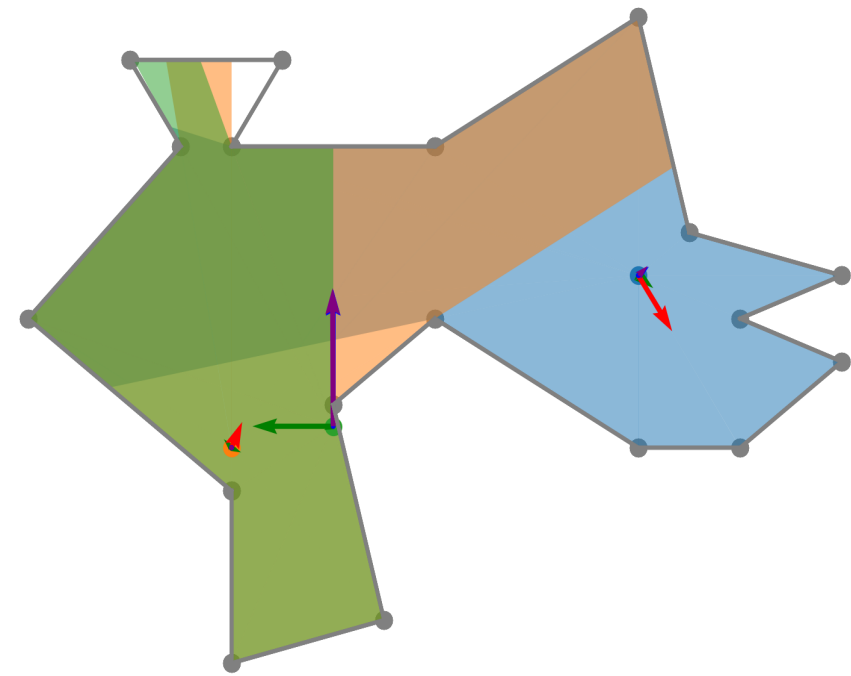


Gradient Computation for Iteration #1

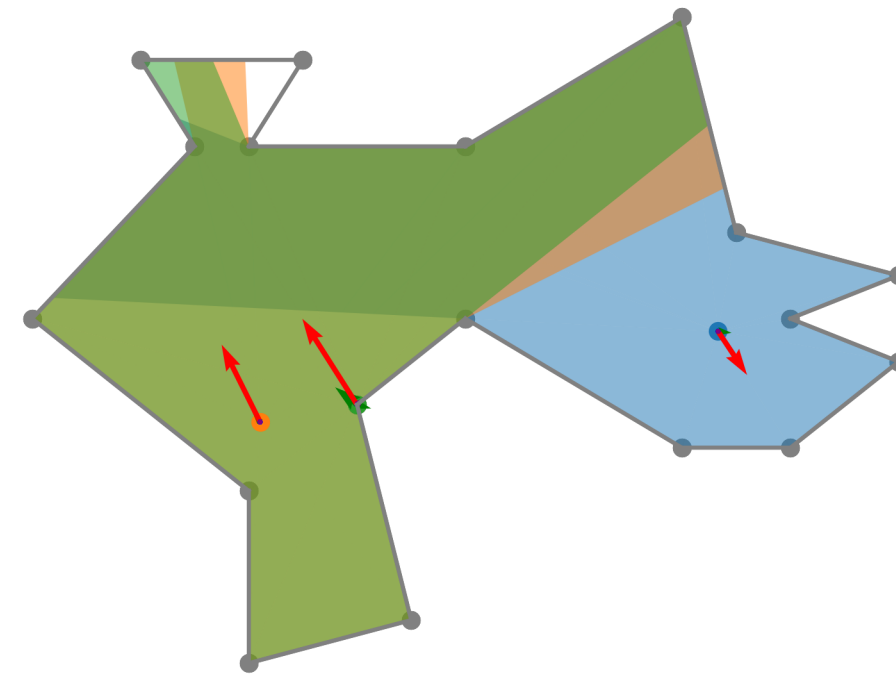


# The Art Gallery Problem

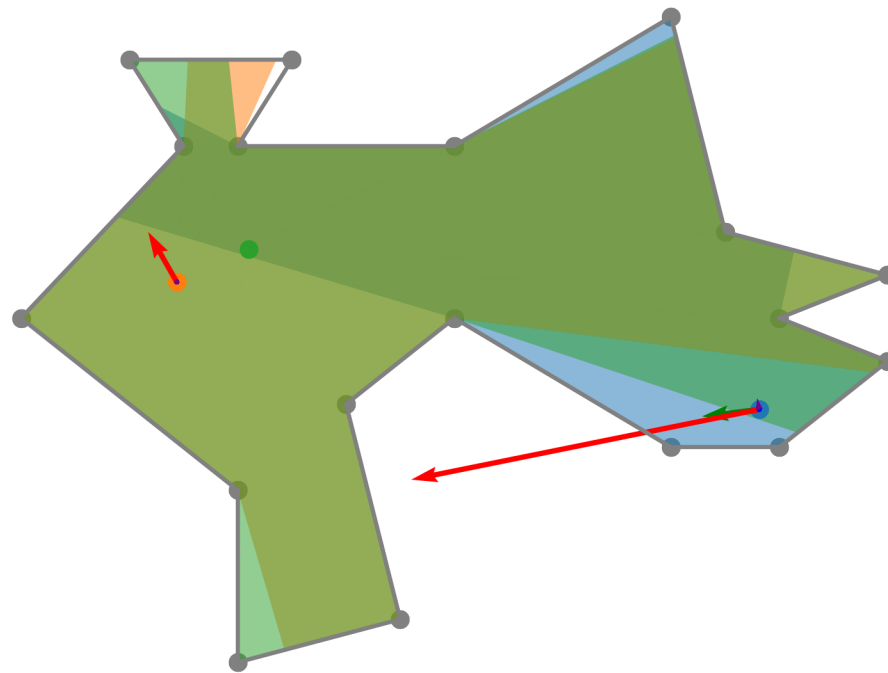
Gradient Computation for Iteration #0



Gradient Computation for Iteration #1

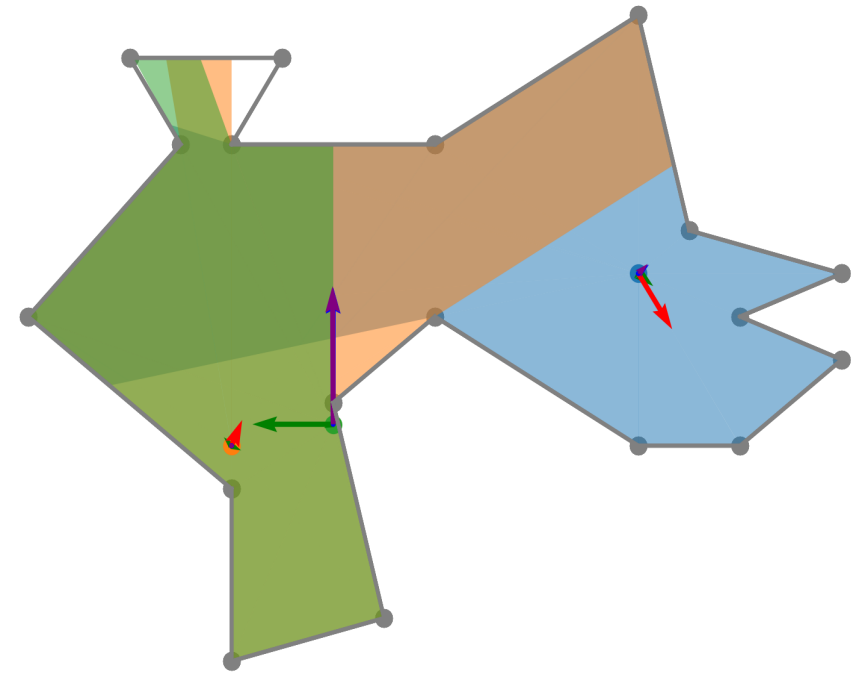


Gradient Computation for Iteration #3

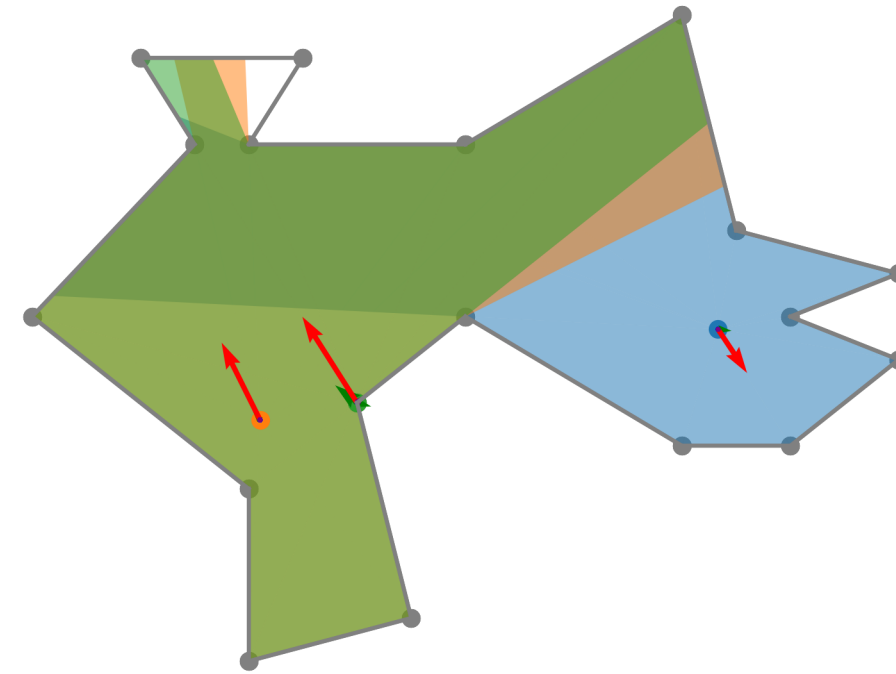


# The Art Gallery Problem

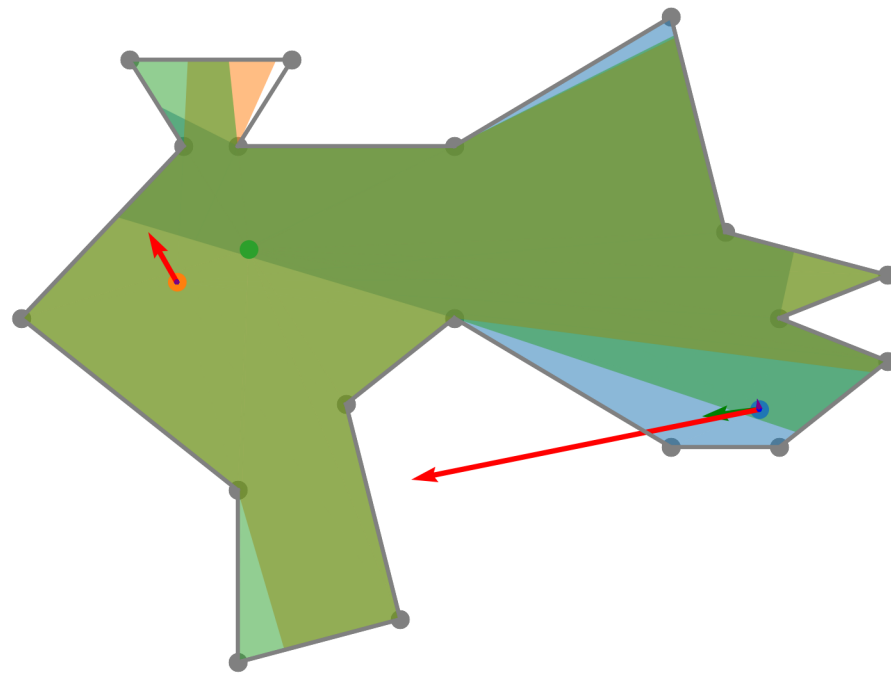
Gradient Computation for Iteration #0



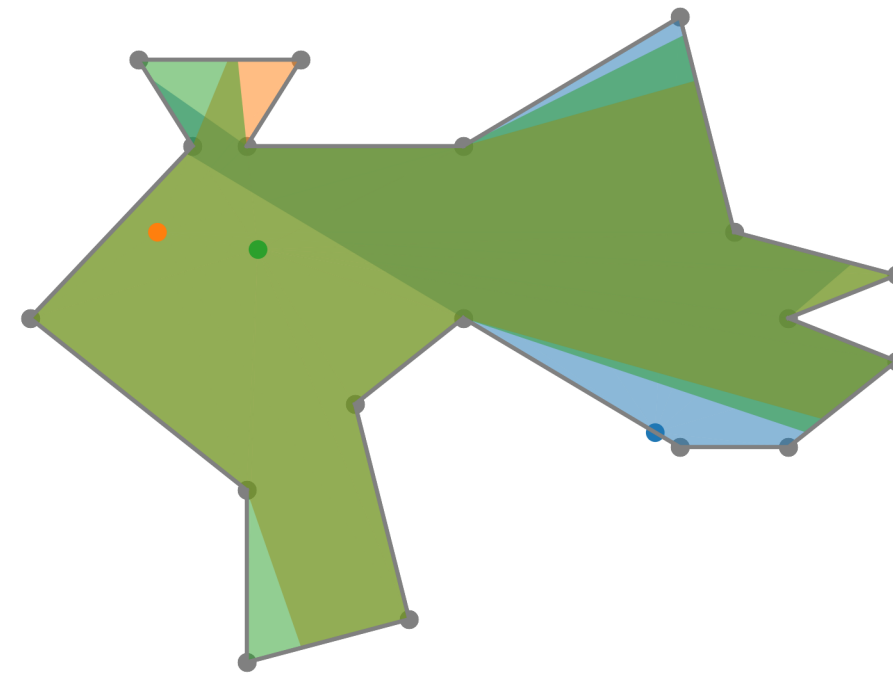
Gradient Computation for Iteration #1



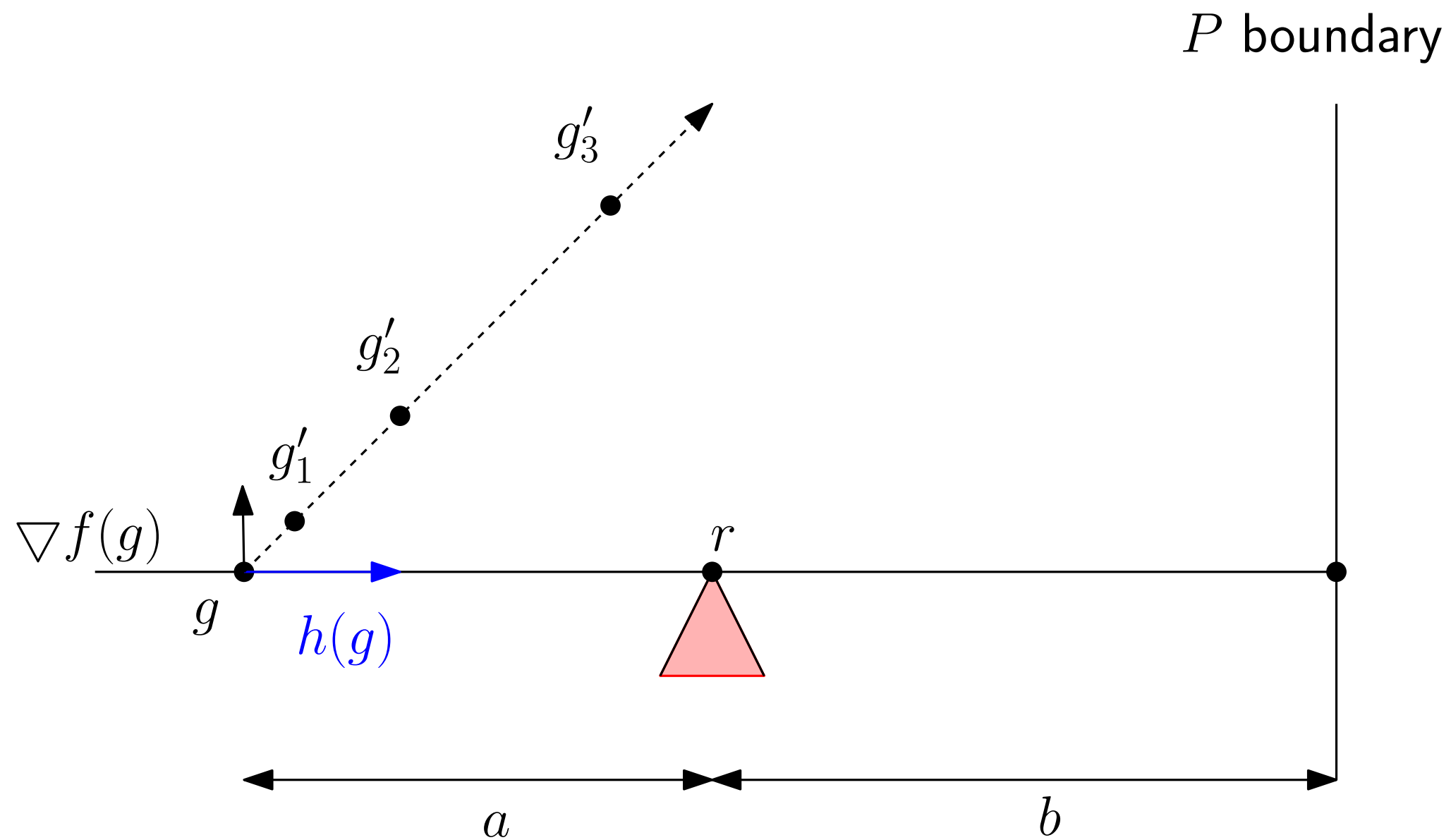
Gradient Computation for Iteration #3



Gradient Computation for Iteration #4

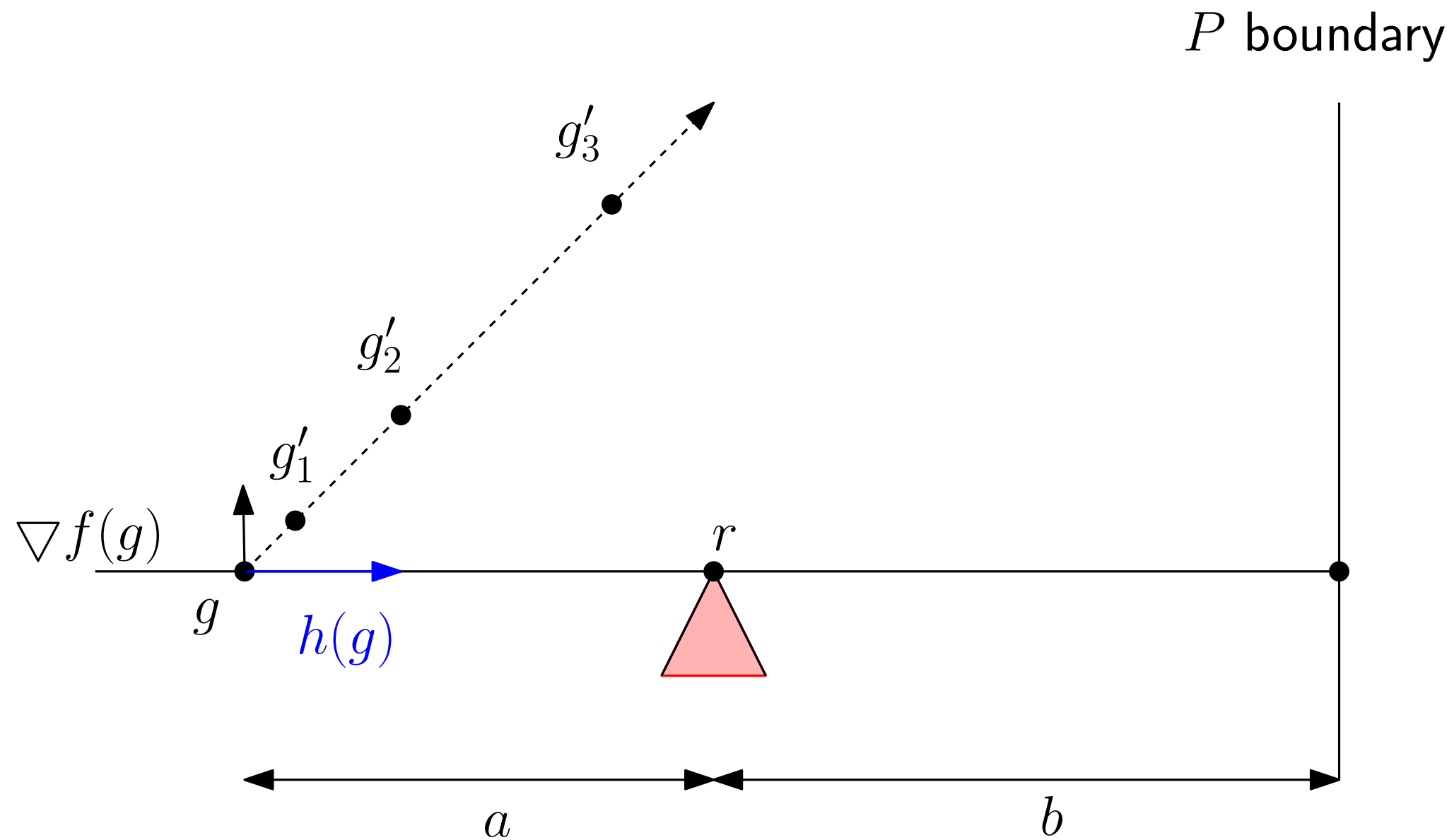


# Heuristics: Line Search



...and more

# Heuristics: Line Search



...and more

# Follow-up

use my code (or not) as a starting point to...

...improve the algorithm's robustness, performance and scalability

...implement other heuristics (so many more ideas!)

...test the algorithm on larger polygons with more guards

...solve bugs

