constructing a meshed density based on particle positions
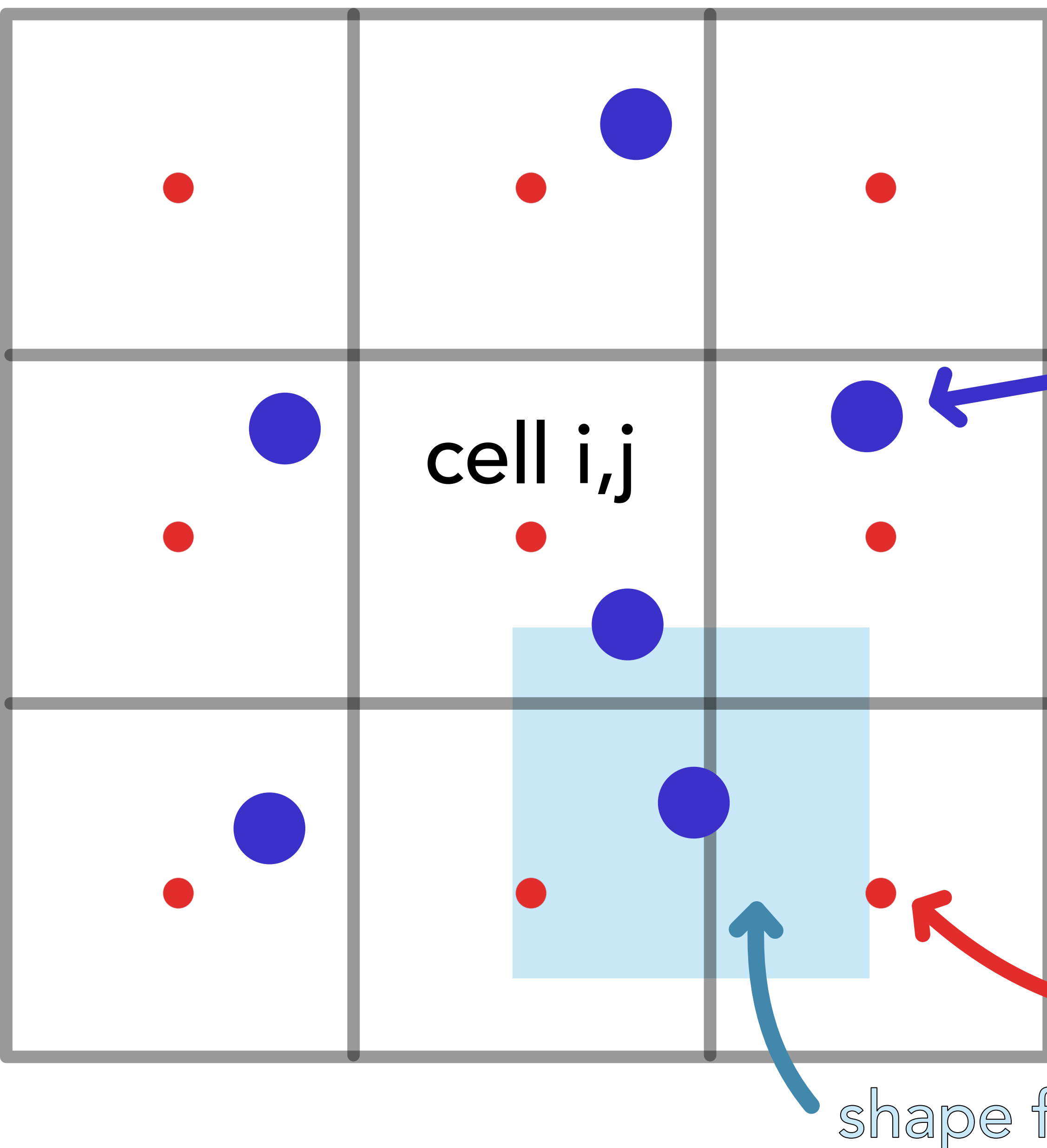
What mass should be assigned to a cell?

particles

cell i,j

Distribute the particle mass based on the overlap between a shape funtion and cell

grid points / cell centers

shape function