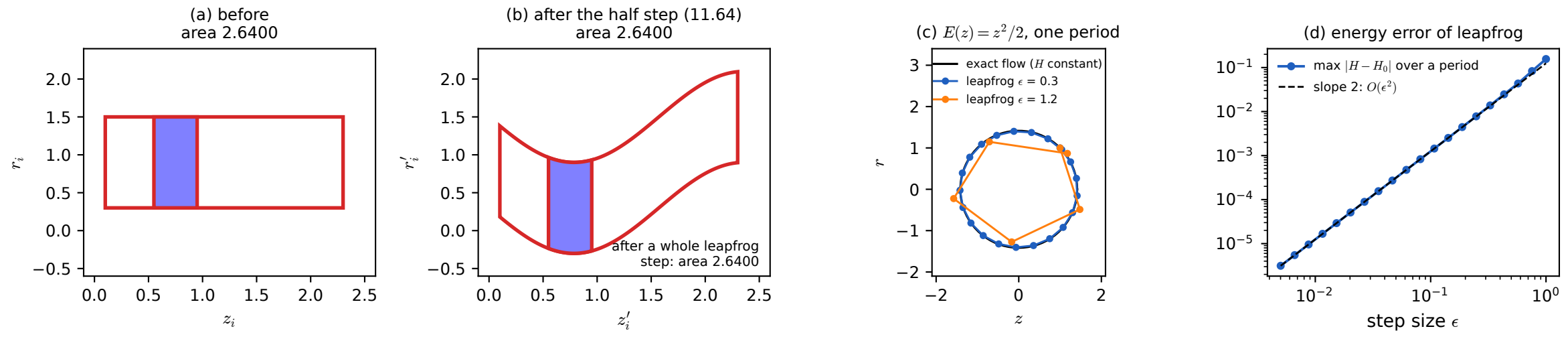

(a) before
area 2.6400
(b) after the half step (11.64)
area 2.6400
after a whole leapfrog
step: area 2.6400
(c) $E(z) = z^2/2$, one period
exact flow (H constant)
leapfrog ϵ = 0.3
leapfrog ϵ = 1.2
(d) energy error of leapfrog
max $|H - H_0|$ over a period
slope 2: $O(\epsilon^2)$
step size ϵ