

Computer Graphics

CSC 418/2504

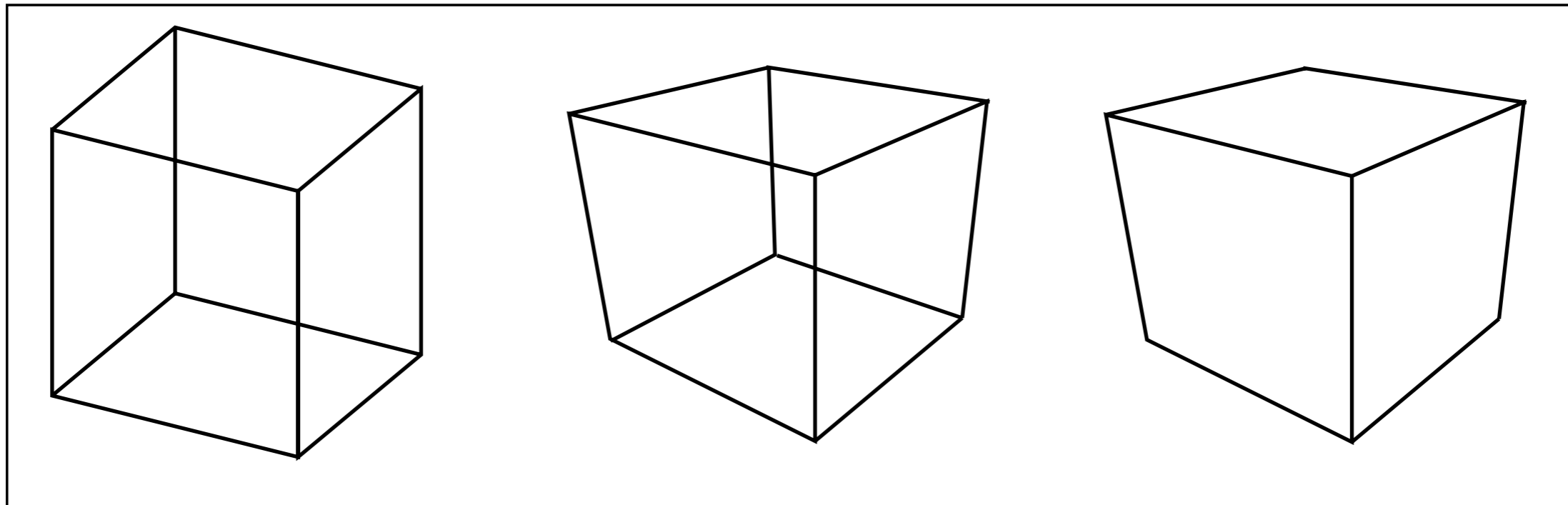
Patricio Simari
October 12, 2011

Figures courtesy of Peter Shirley,
“Fundamentals of Computer Graphics”, 2nd Ed.

Topics

- Orthographic and perspective transformation/projection

Orthographic vs perspective

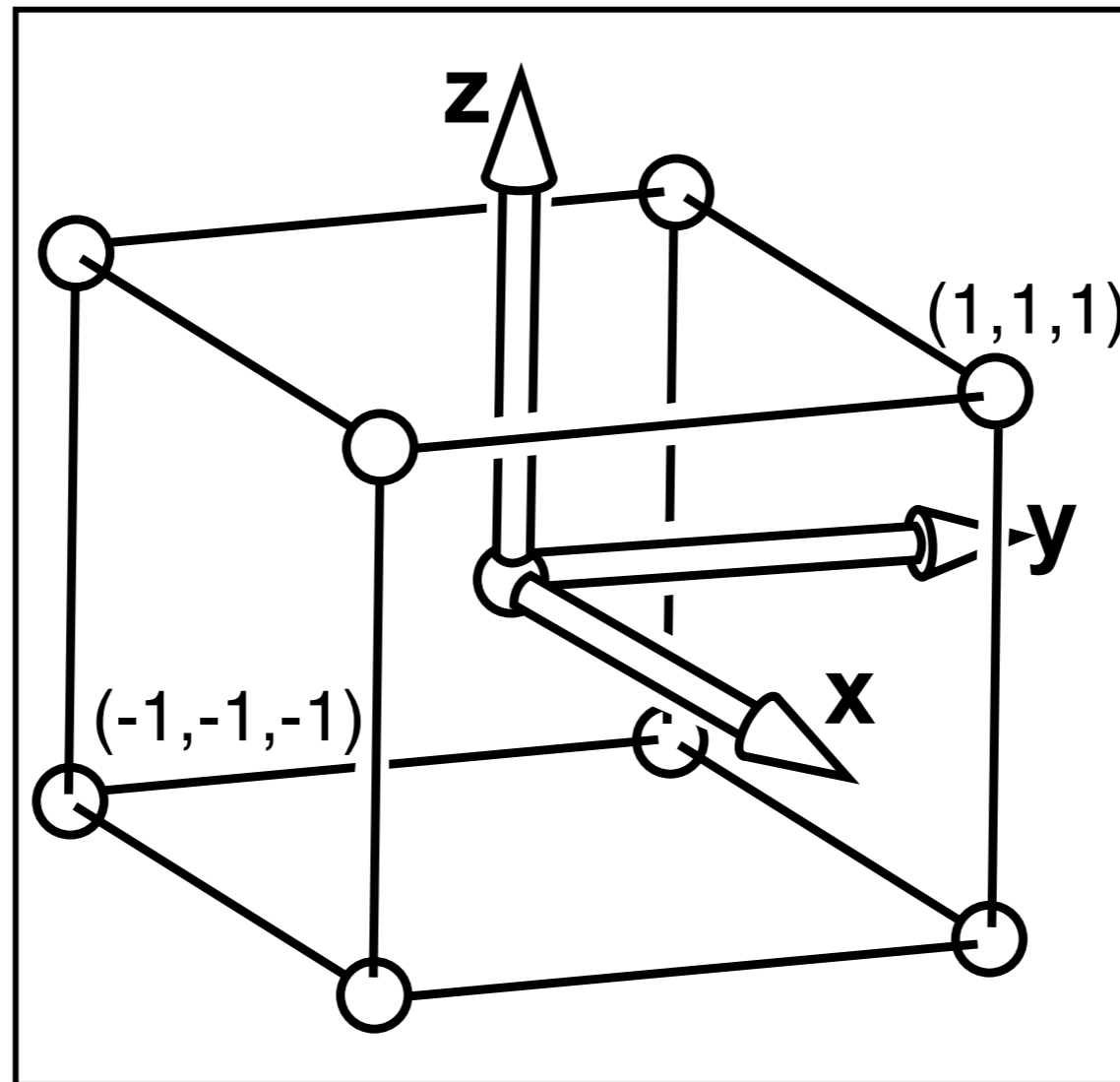


Orthographic

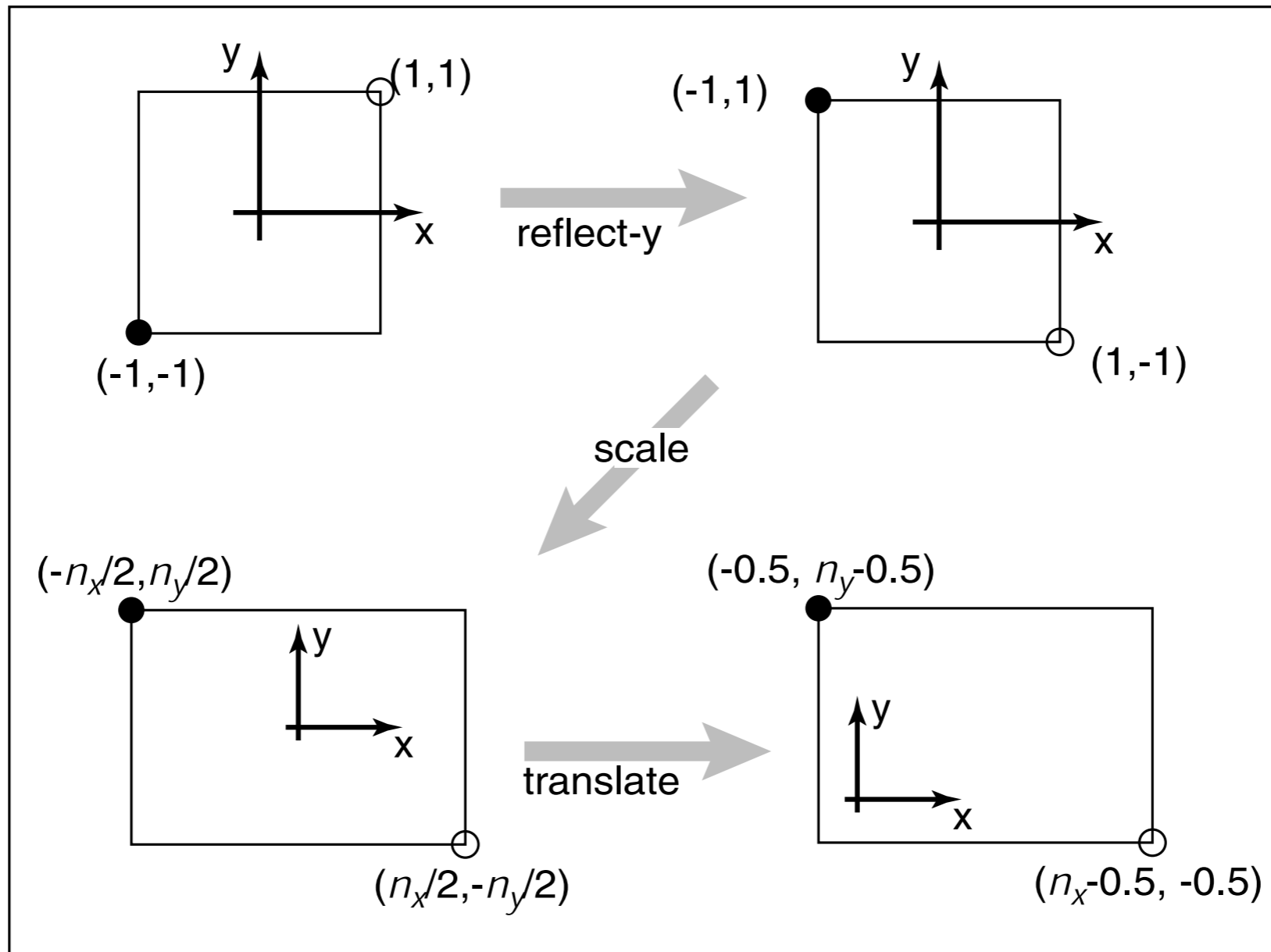
Perspective

Perspective
(hidden lines removed)

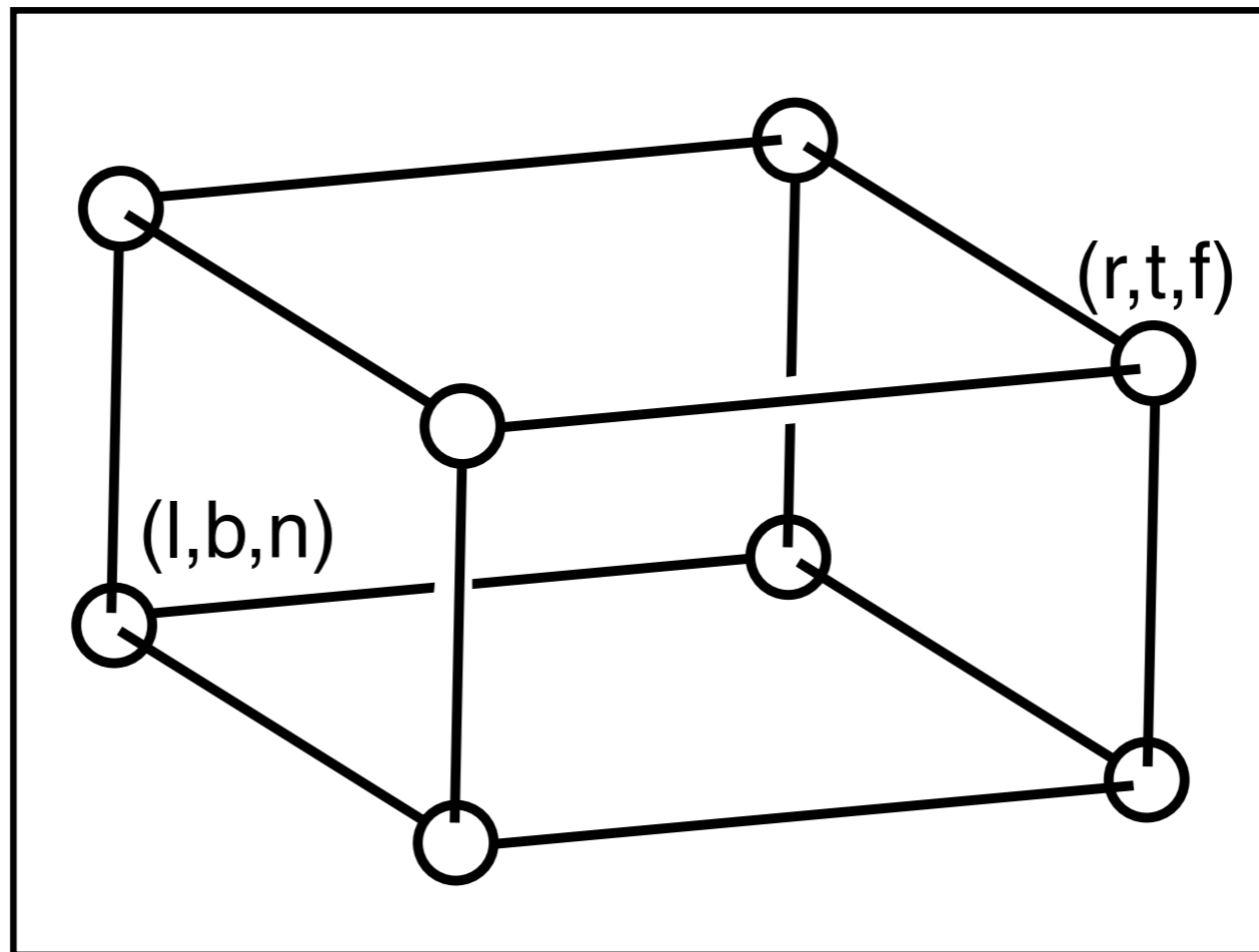
Canonical view volume



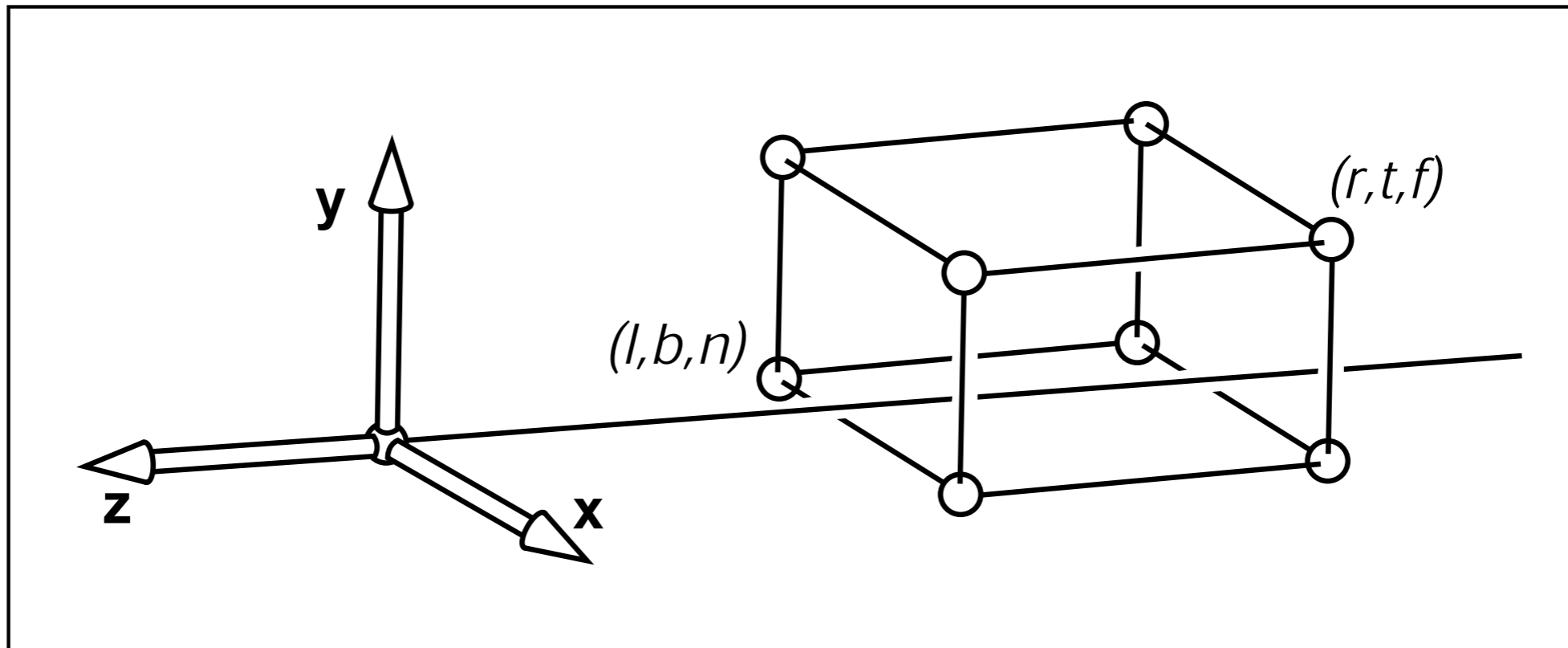
Screen space



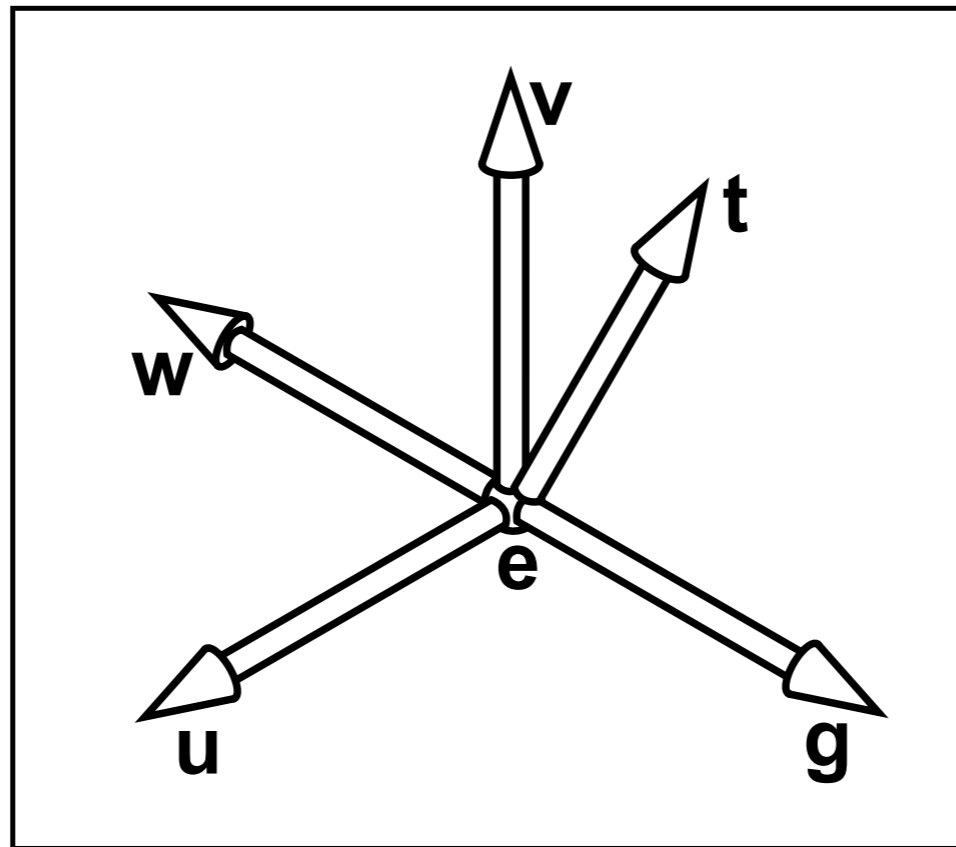
Orthographic view volume



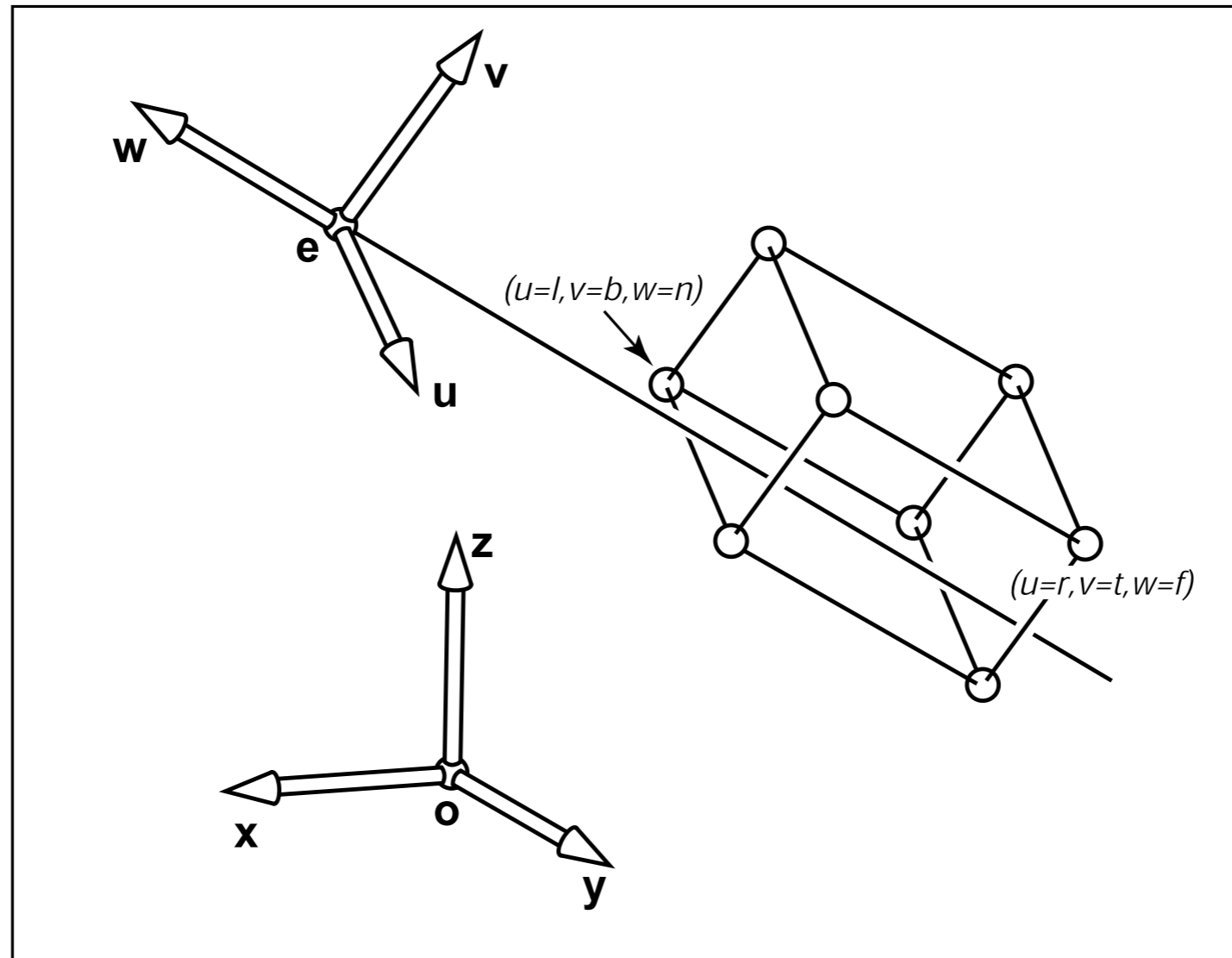
Orthographic view volume



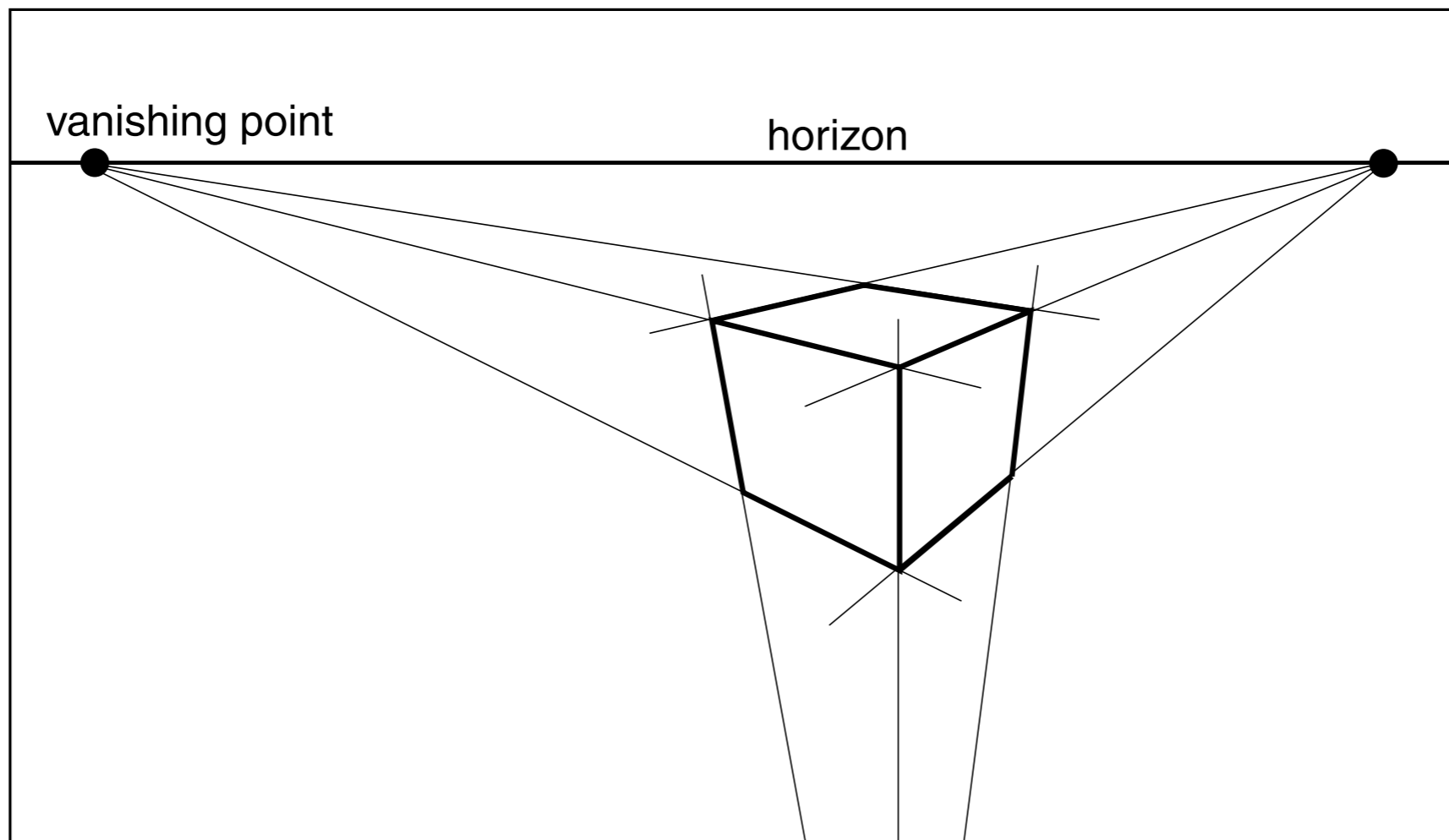
Camera space basis



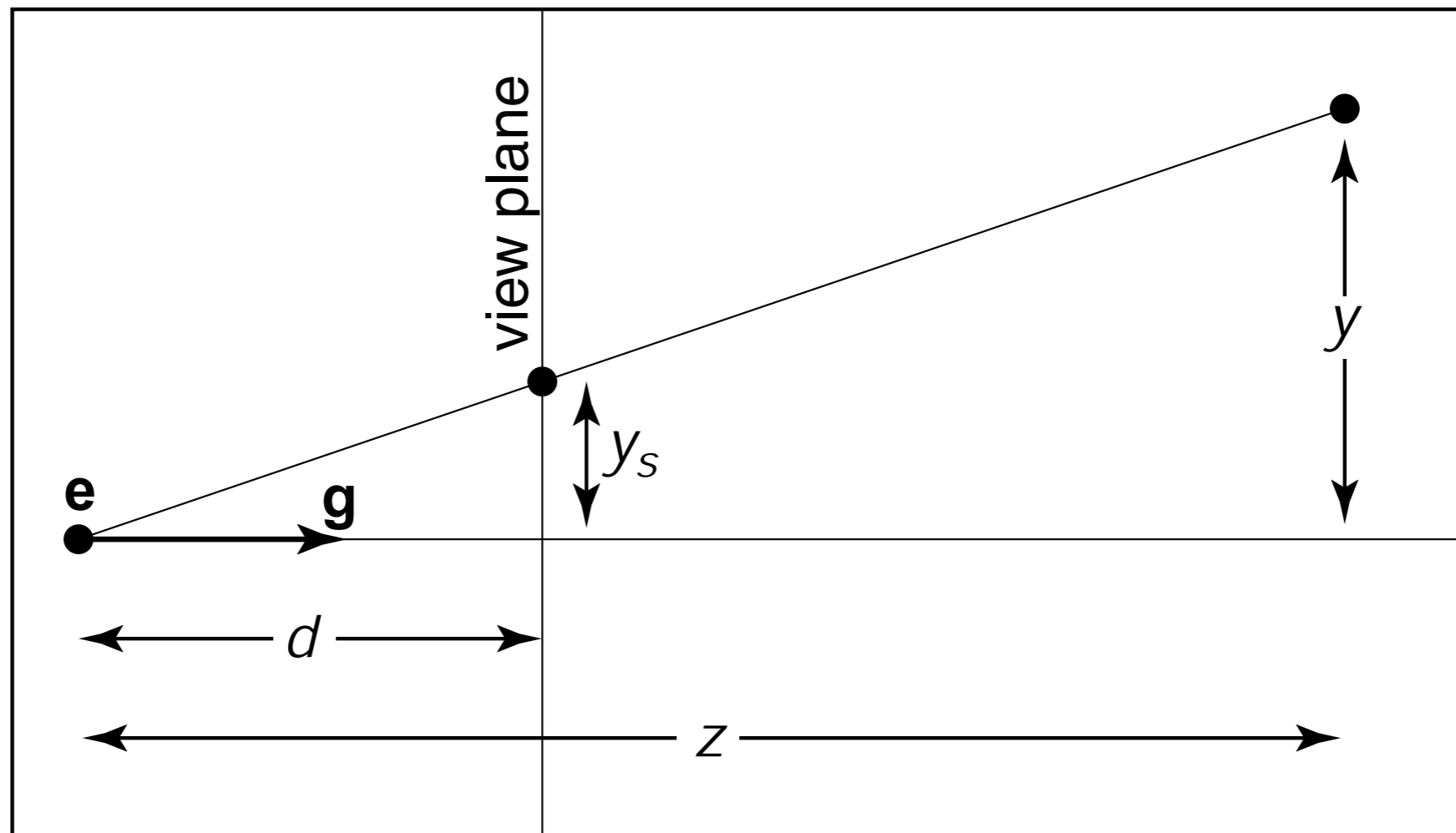
Camera view volume



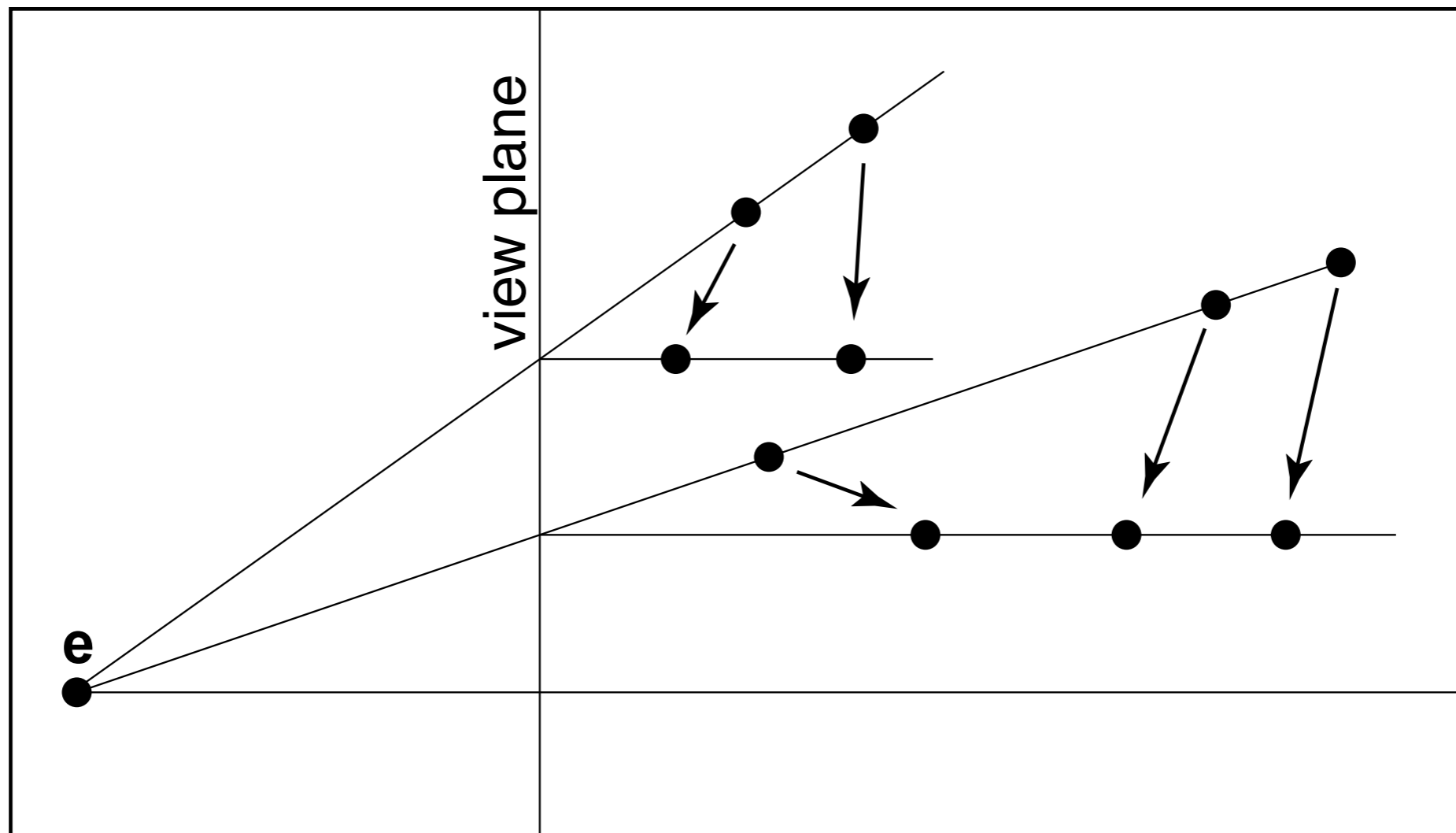
Vanishing points



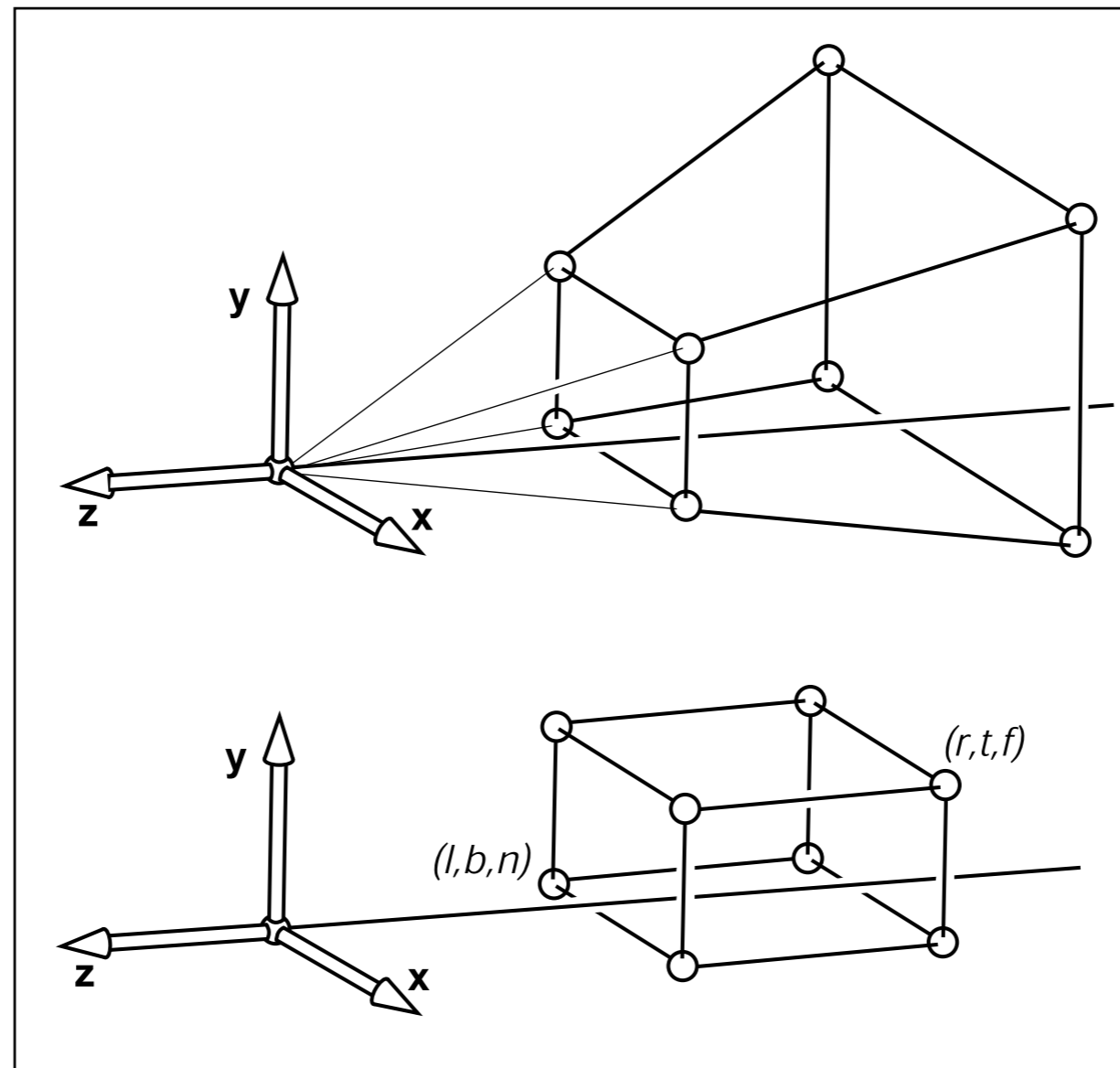
Perspective projection



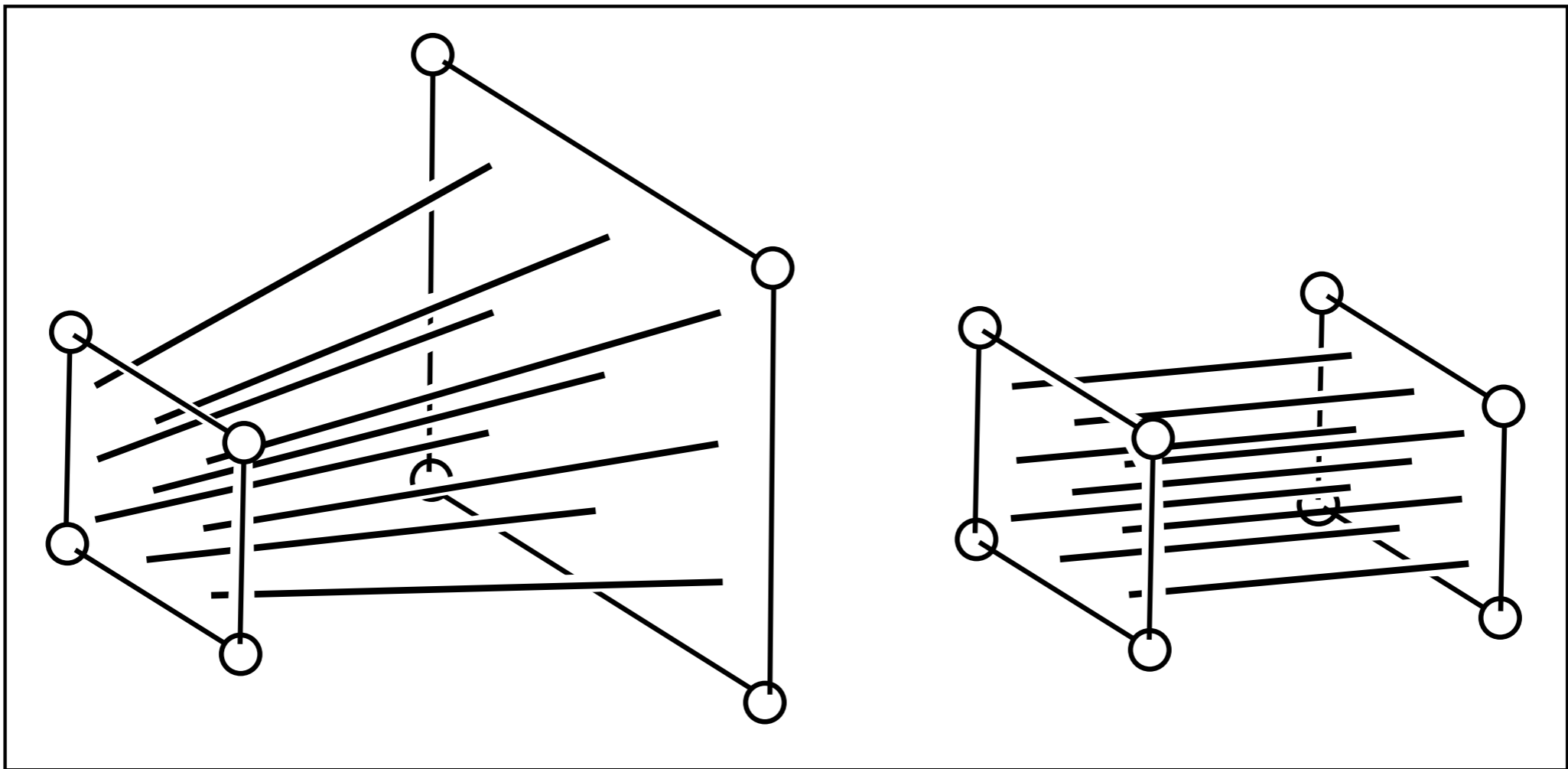
Perspective projection



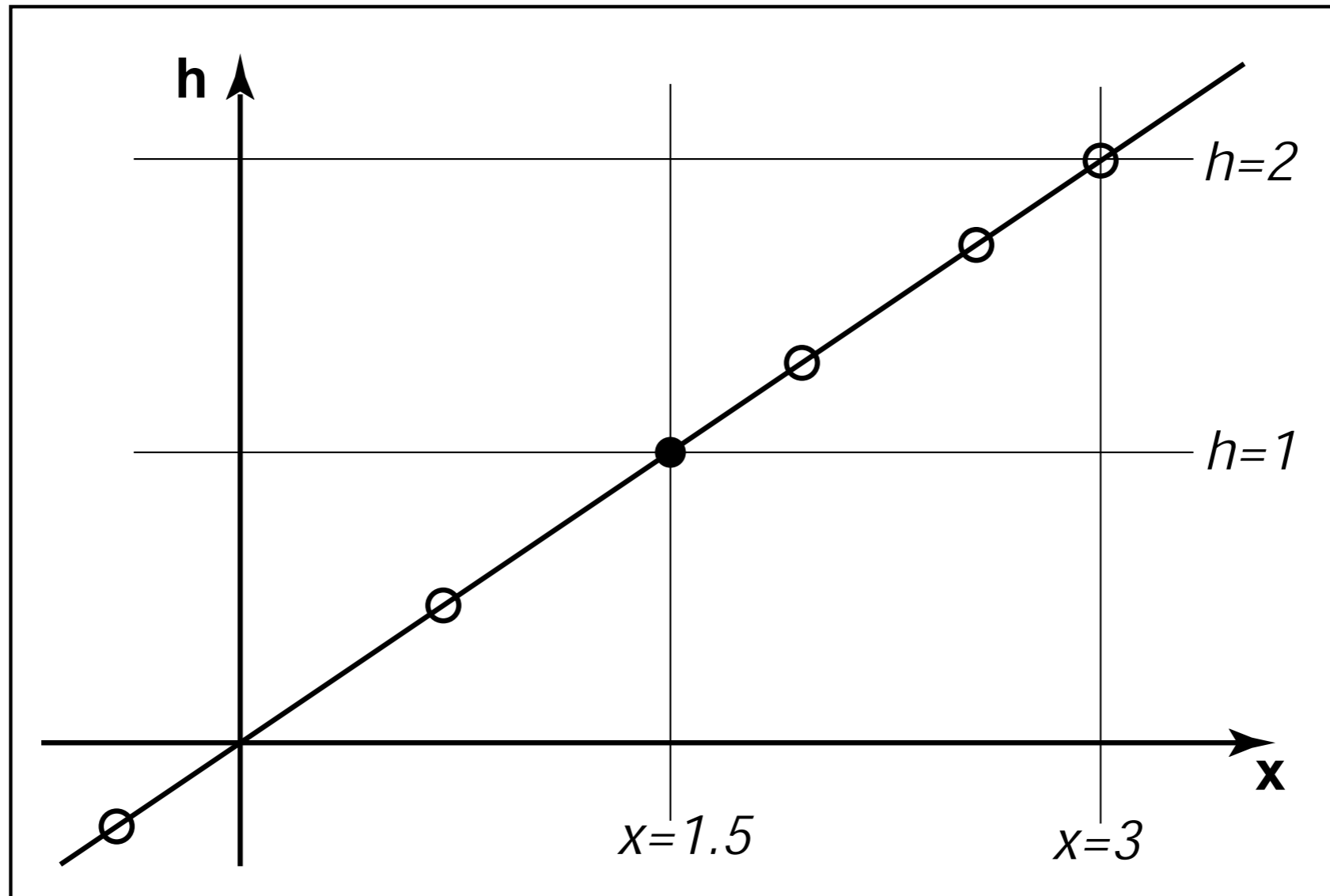
Perspective projection



Perspective projection



Homogeneous values



Field of view

