Viewing Frustum - *near* and *far* Parameters
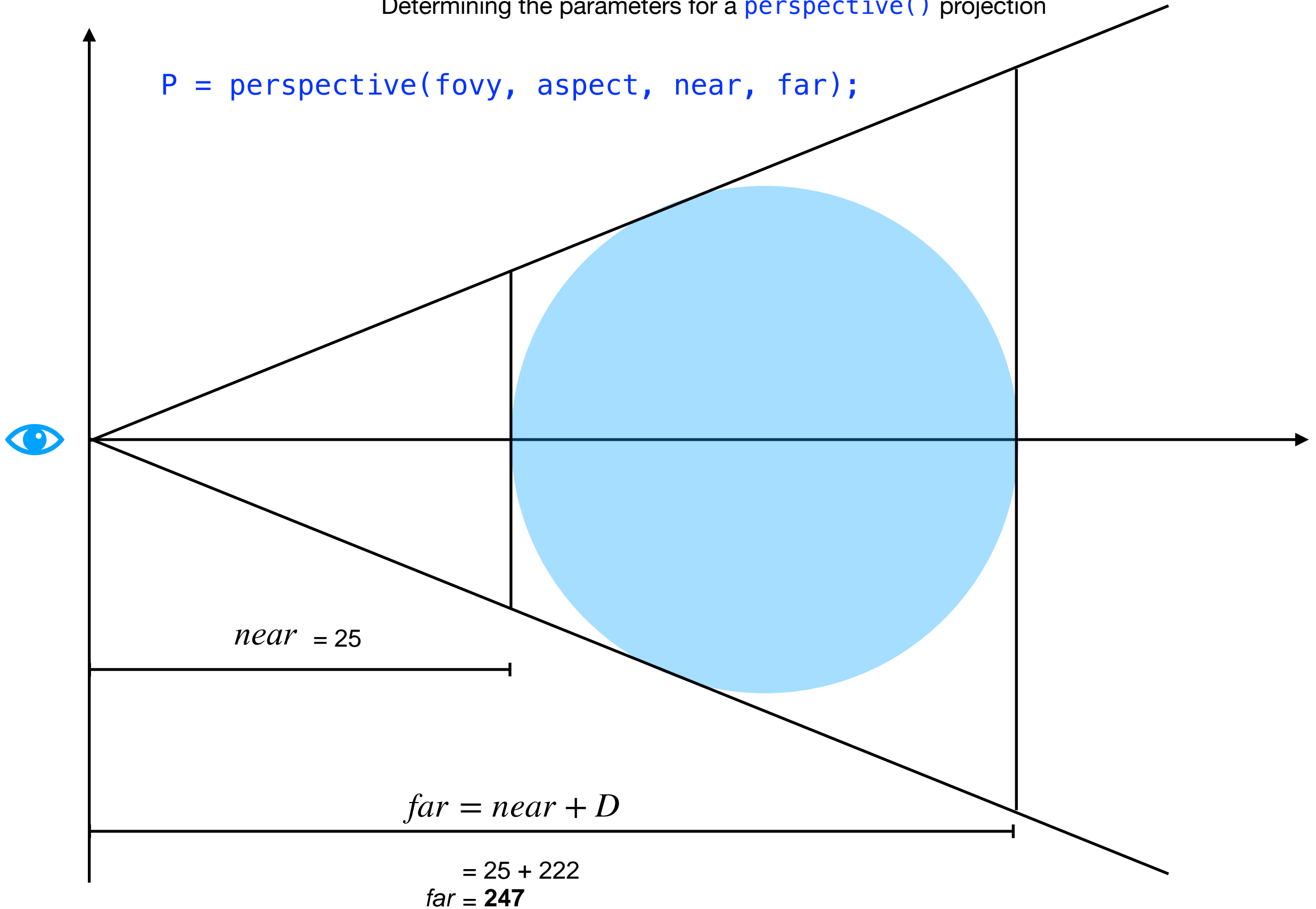
Determining the parameters for a `perspective()` projection

`P = perspective(fovy, aspect, near, far);`

near = 25

$far = near + D$

= 25 + 222

far = **247**

Viewing Frustum - *fovy* and *aspect* Parameters

Θ = arcsin ((222 / 2) / (25 + (222 / 2)))
    = 0.95476 rad
Θ = **54.7°**

arcsin returns radians
(you may need to
convert to degrees)

$$\theta = \arcsin \frac{D/2}{near + D/2}$$

$D/2$

θ

$D/2$

$near + D/2$

$fovy = 2\theta$

$$aspect = \frac{\textbf{canvas.clientWdith}}{\textbf{canvas.clientHeight}}$$

fovy = 2(54.7°)
    = **109.4°**

aspect = 800/800
    = **1**