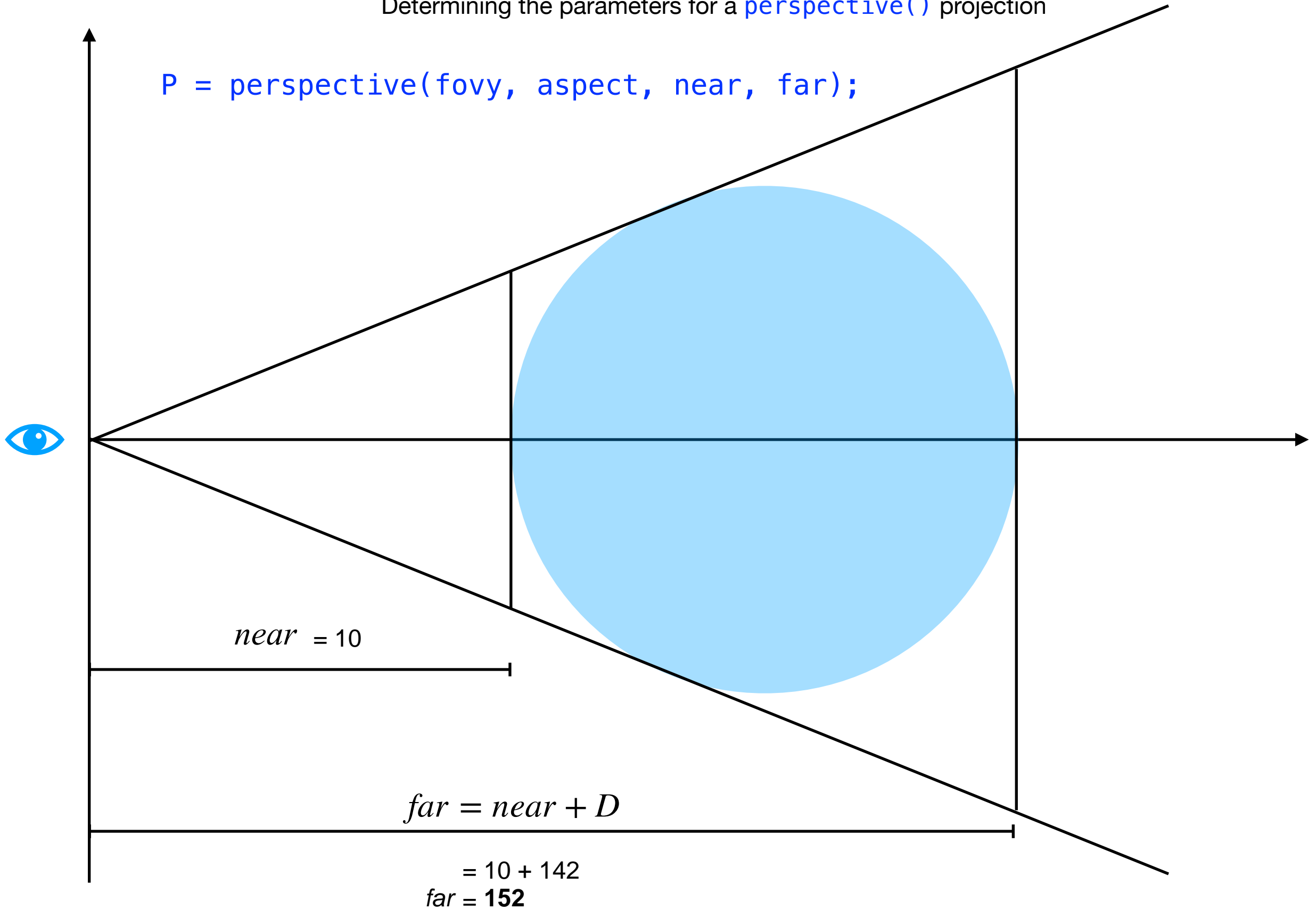# Viewing Frustum - *near* and *far* Parameters

Determining the parameters for a `perspective()` projection

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

near = 10

$far = near + D$

= 10 + 142

far = **152**

Viewing Frustum - *fovy* and *aspect* Parameters

Θ = arcsin ((142 / 2) / (10 + (142 / 2)))
   = 1.06863 rad
Θ = **61.62°**

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

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

$D/2$

θ

$near + D/2$

$fovy = 2\theta$

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

fovy = 2(61.62°)
   = **122.46°**

aspect = 800/800
   = 1