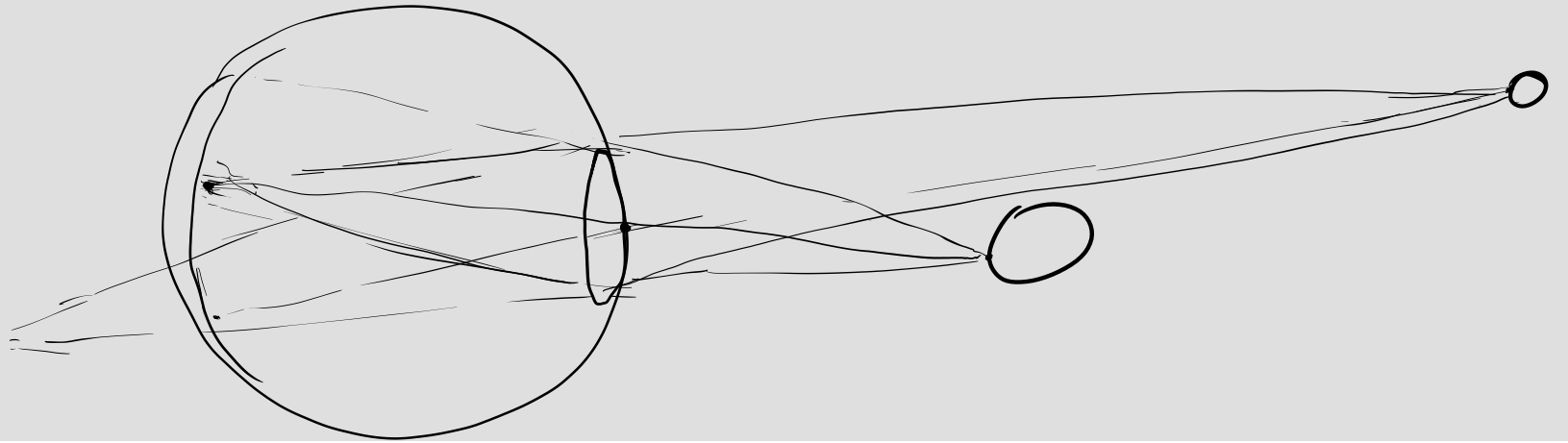
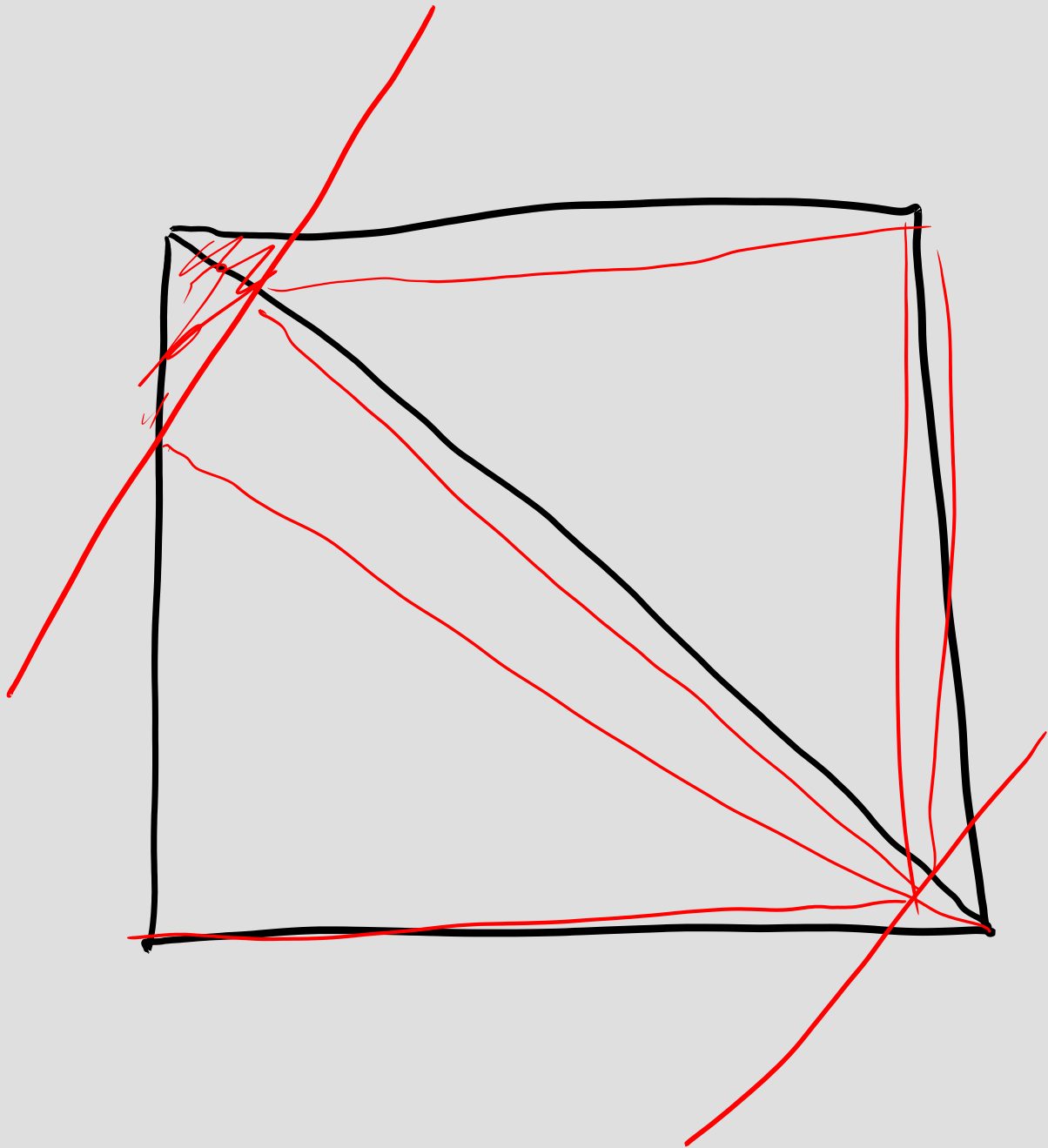
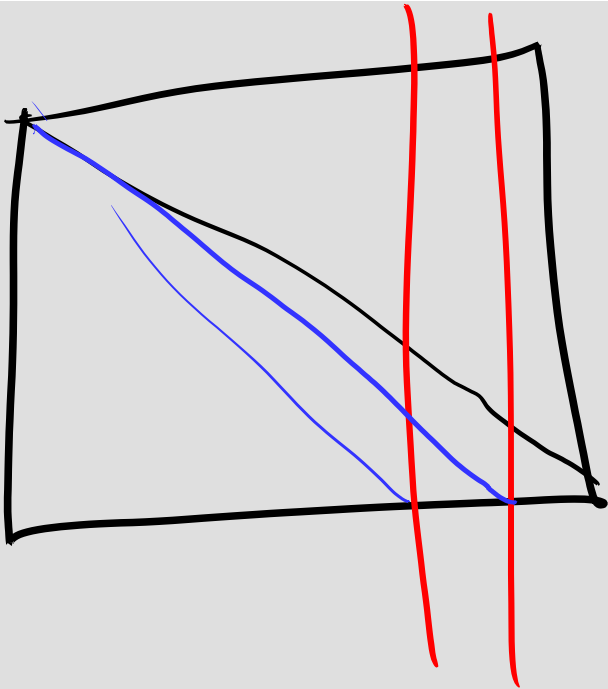


focal depth



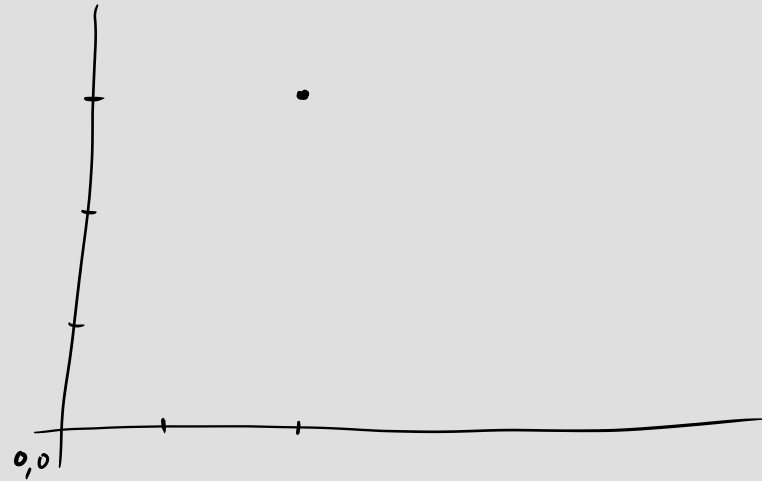


$(2, 3, 4)$

$$\underbrace{.6x + .8y + 0z + 4}_{\substack{2 \quad 3 \quad 4}} = 0$$

$$\underline{1.2 + 2.4 + 0 + 4}$$

7.6



$$y, z = 0$$

$$.6x + 4 = 0$$

$$x = \frac{-4}{.6} \approx -7$$

$$\frac{40}{6} \quad \frac{20}{3}$$

6.6666

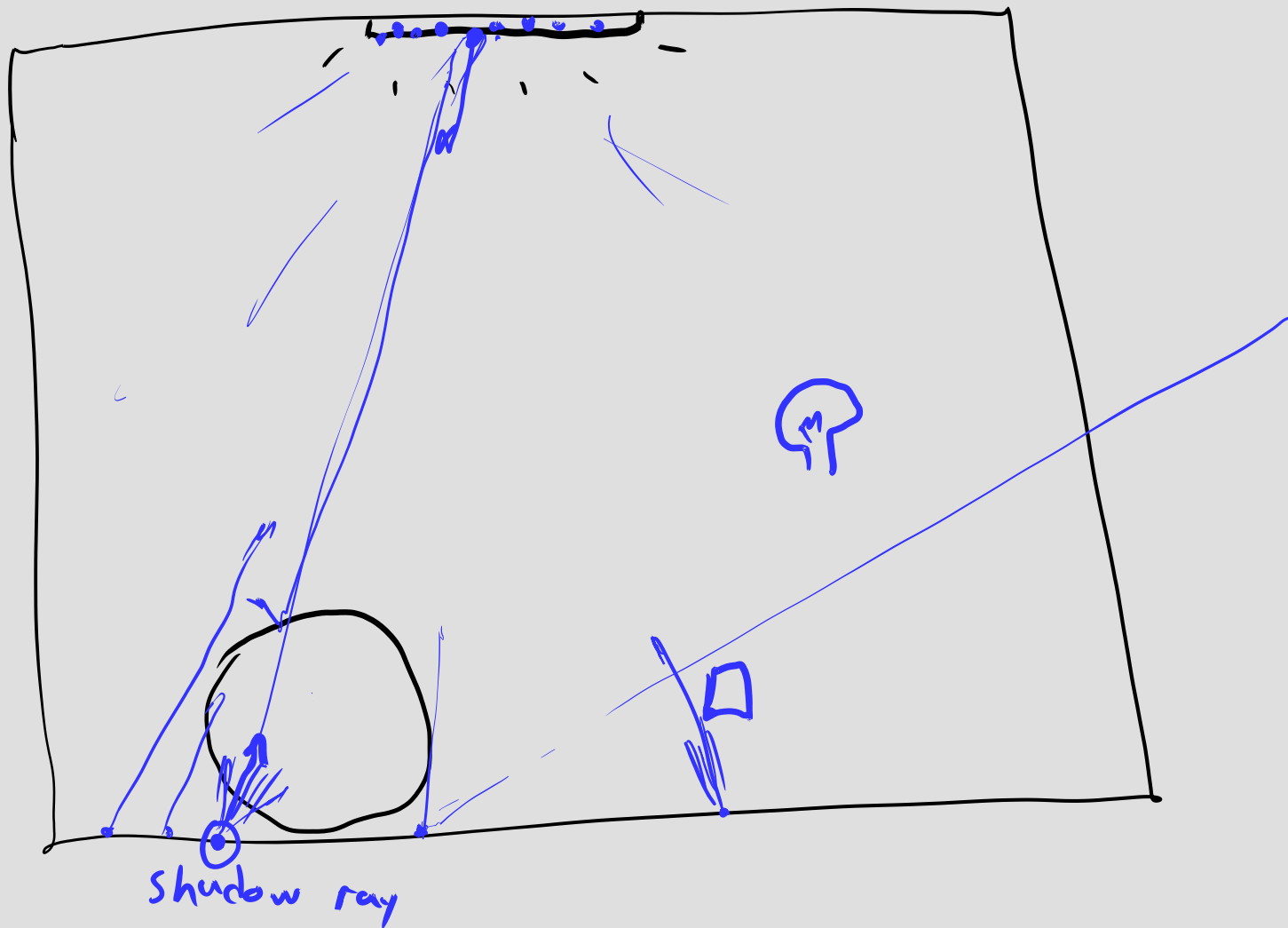
$$(-6.666\dots, 0, 0)$$

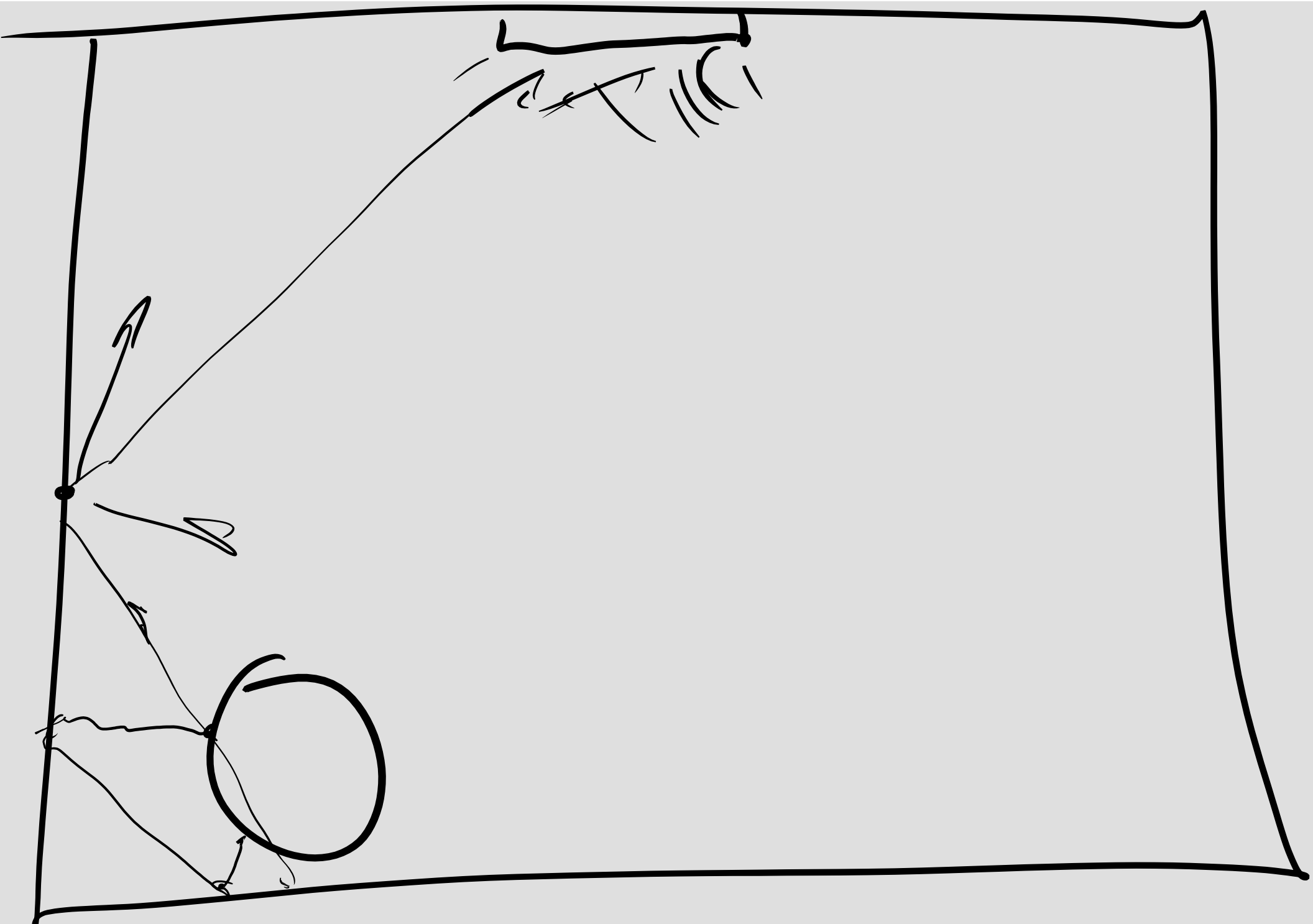
$$(2, 3, 4)$$

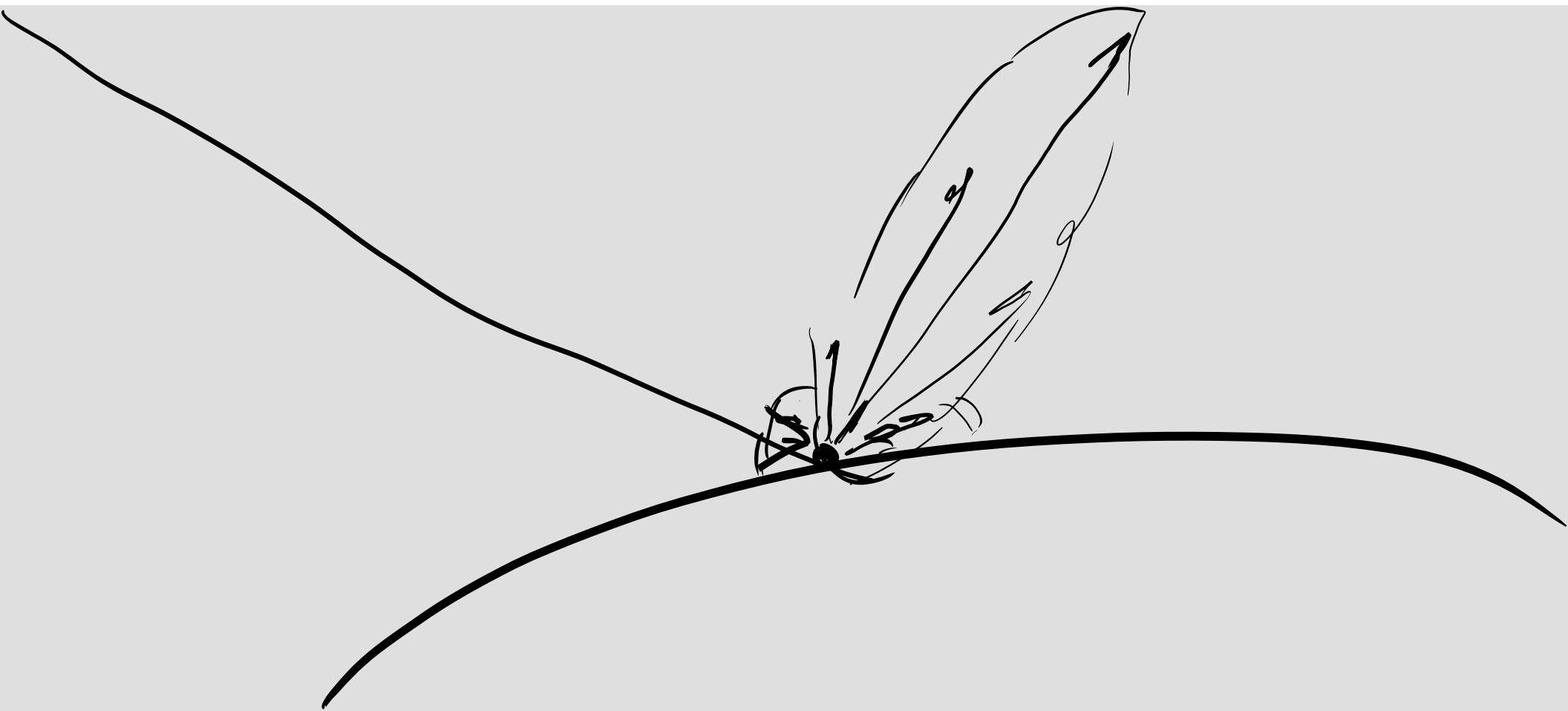
$$(-8.666\dots, -3, -4)$$

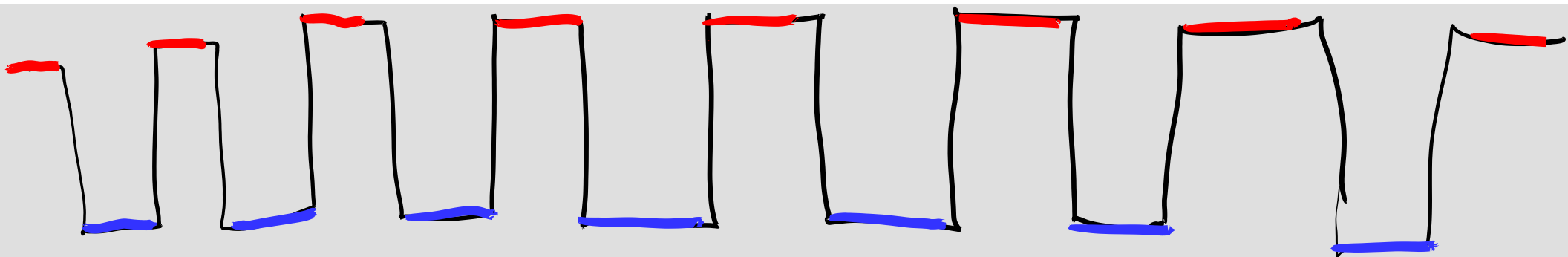
$$(.6, .8, 0)$$

Eye \rightarrow pixel \rightarrow scene $\xrightarrow{\text{shadow ray}}$ light
 $\xrightarrow{\text{ray}}$









diffuse

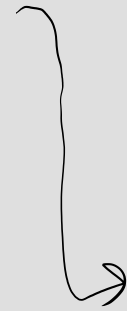


random

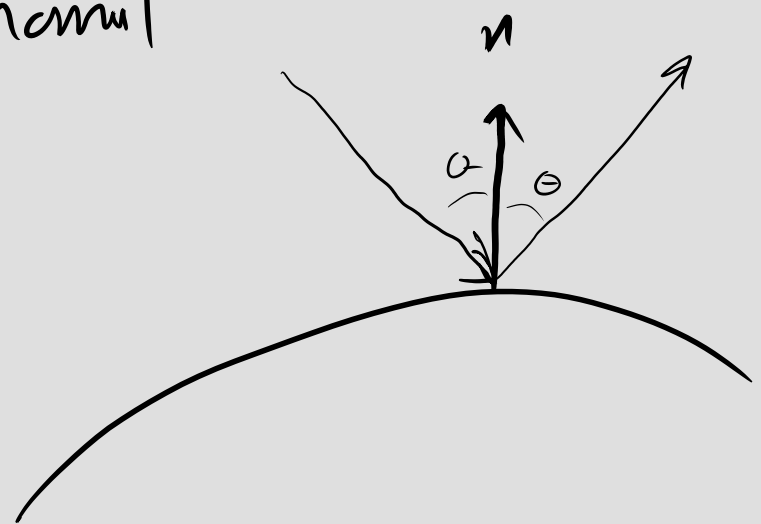
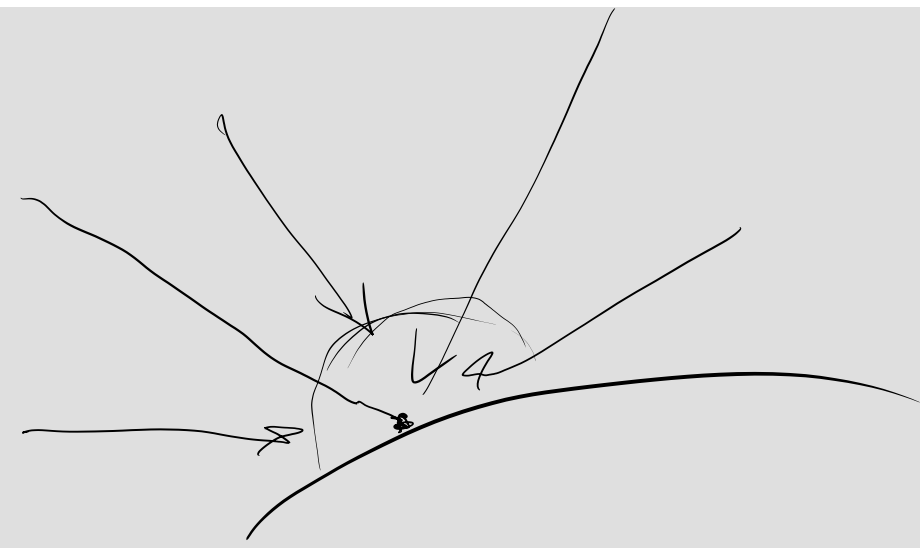
refractive

- snell's law

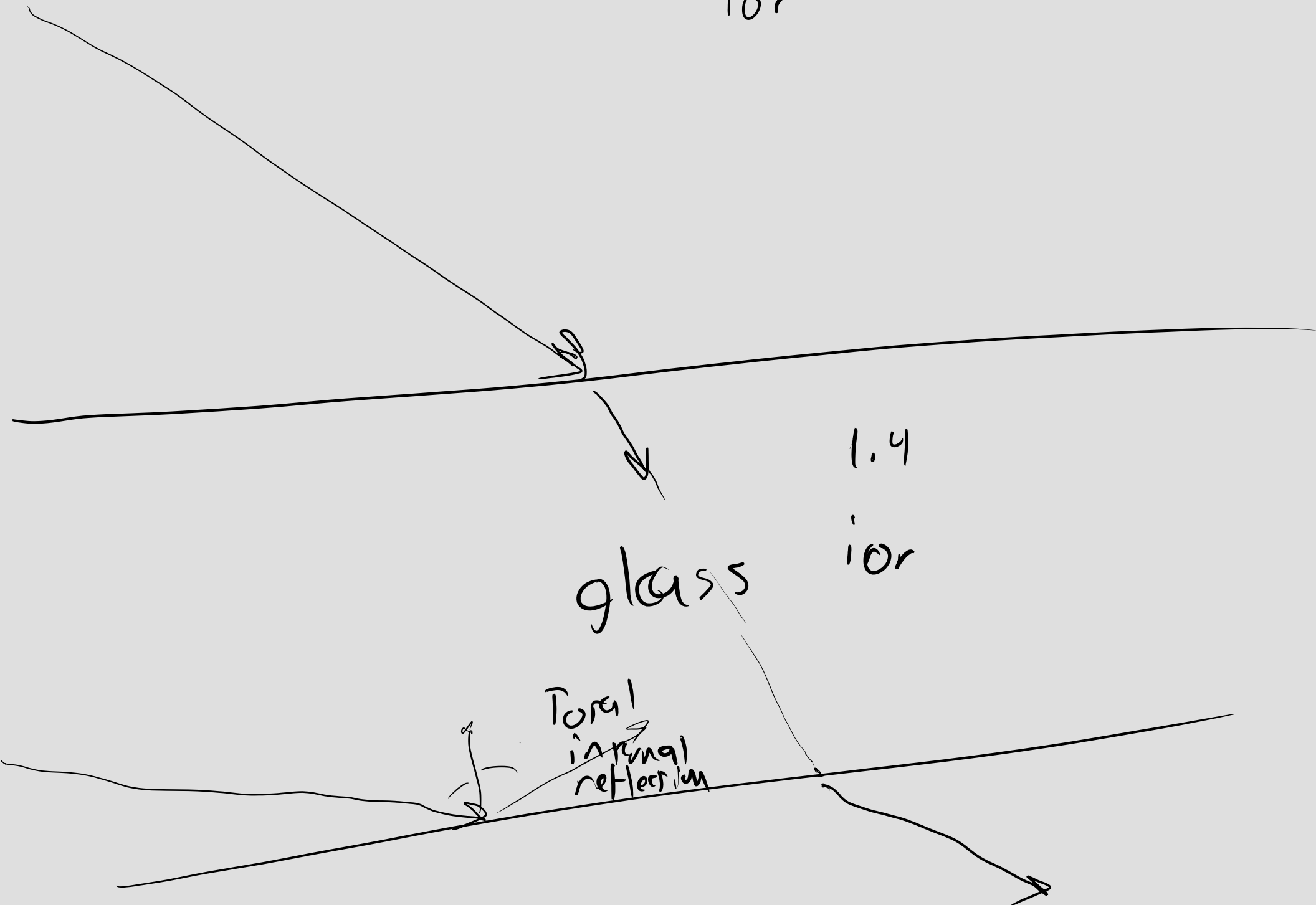
reflective



mirror across normal



ior 1.00003

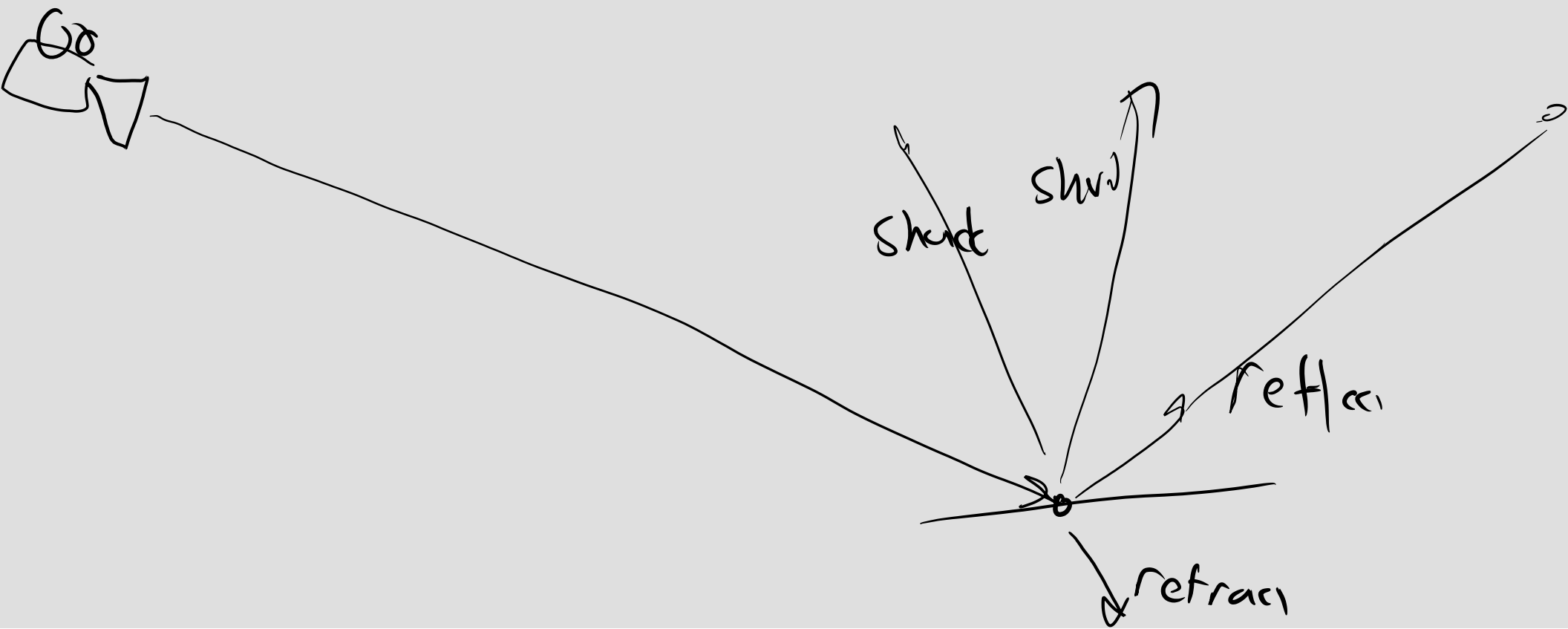


glass

1.4

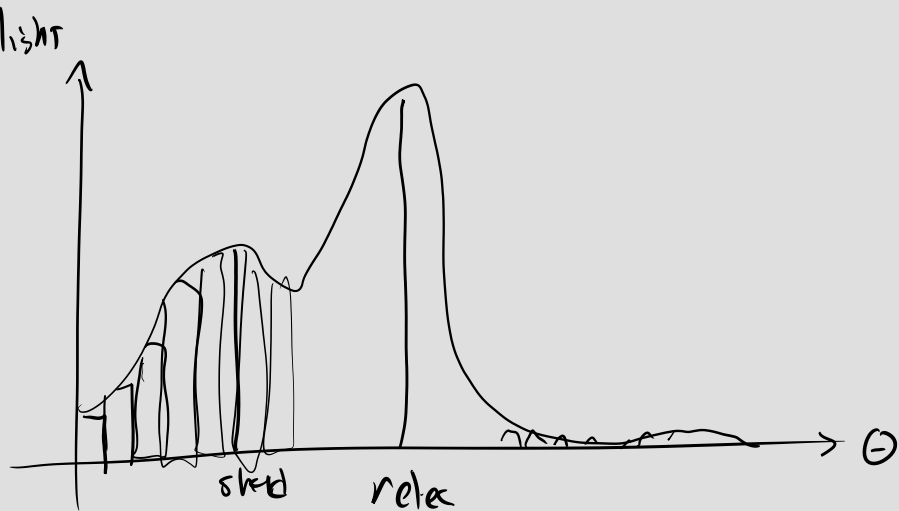
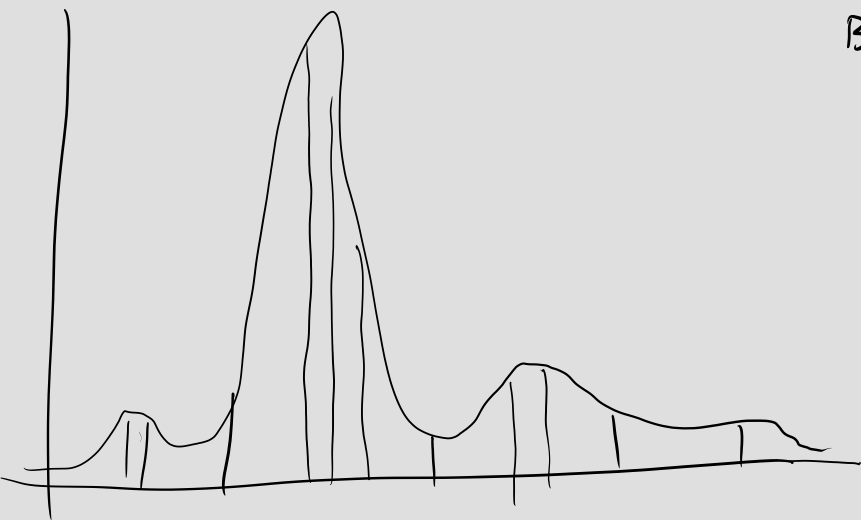
ior

Total
internal
reflection



NUMERICAL Integration
importance sampling

Bright high light
BRDF



BRDF

Global Illumination

ambient Occlusion — shoot random & hard on rays only

Projectus

