$(x,y) \longrightarrow (r, \theta)$

hoop 1 position

θ

$0°$

x

$y -$

r
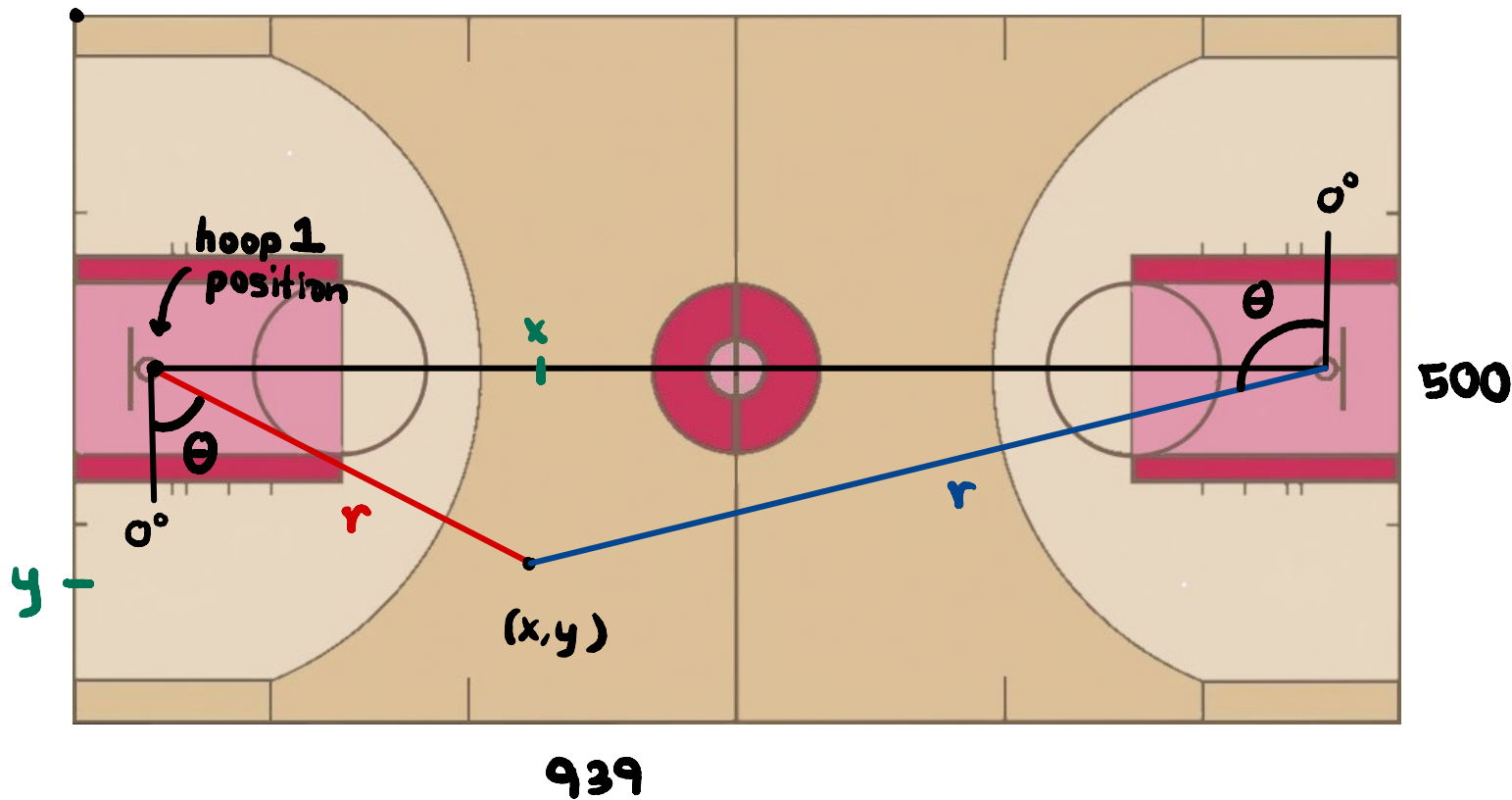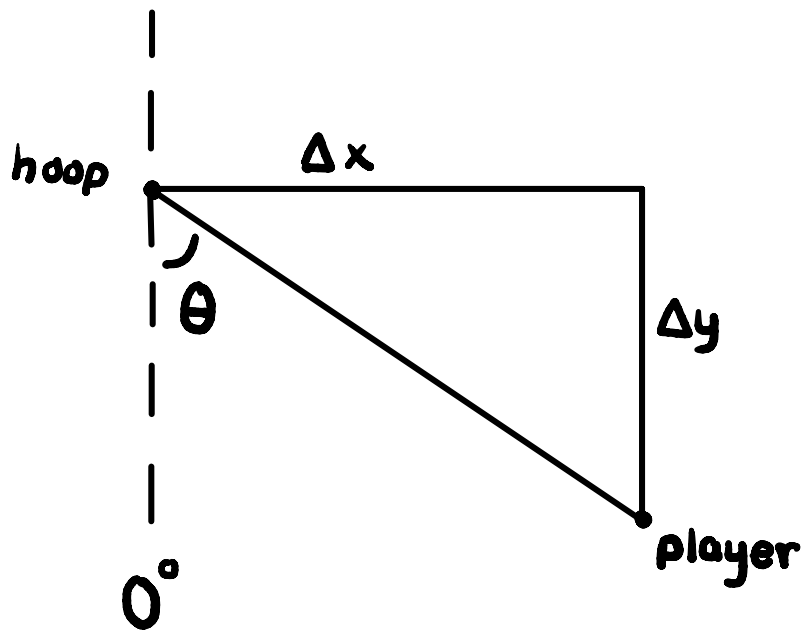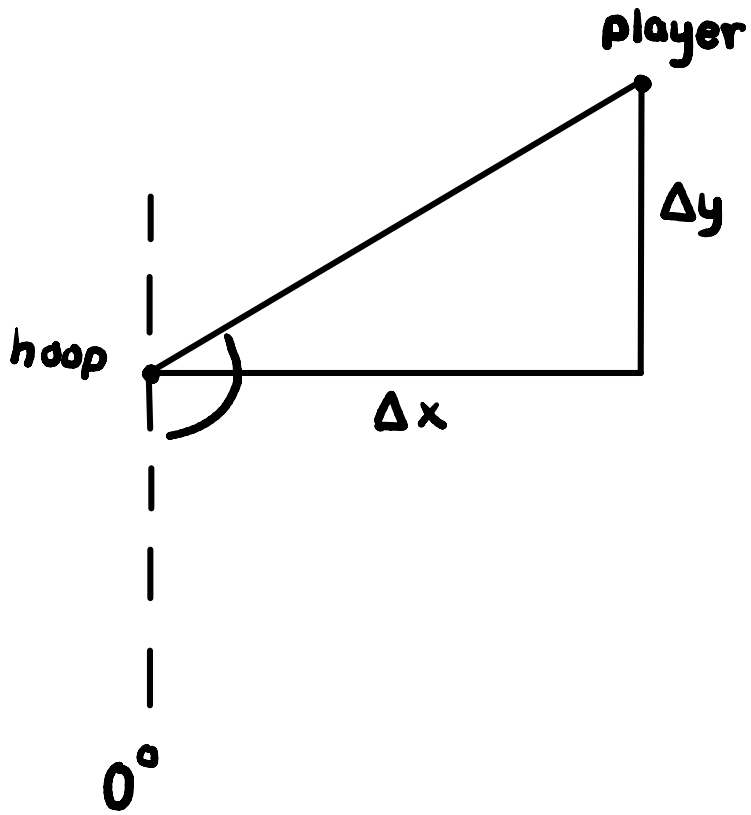
(x,y)

r

θ

$0°$

500

939

hoop

Δx

θ

Δy

player

$0°$

$$r = \sqrt{(\Delta x)^2 + (\Delta y)^2}$$

$$\theta = 90 - \tan^{-1}\left(\frac{\Delta y}{\Delta x}\right)$$

player

hoop

Δy

Δx

$0°$

$\Theta = 90 + \tan^{-1}\left(\dfrac{\Delta y}{\Delta x}\right)$