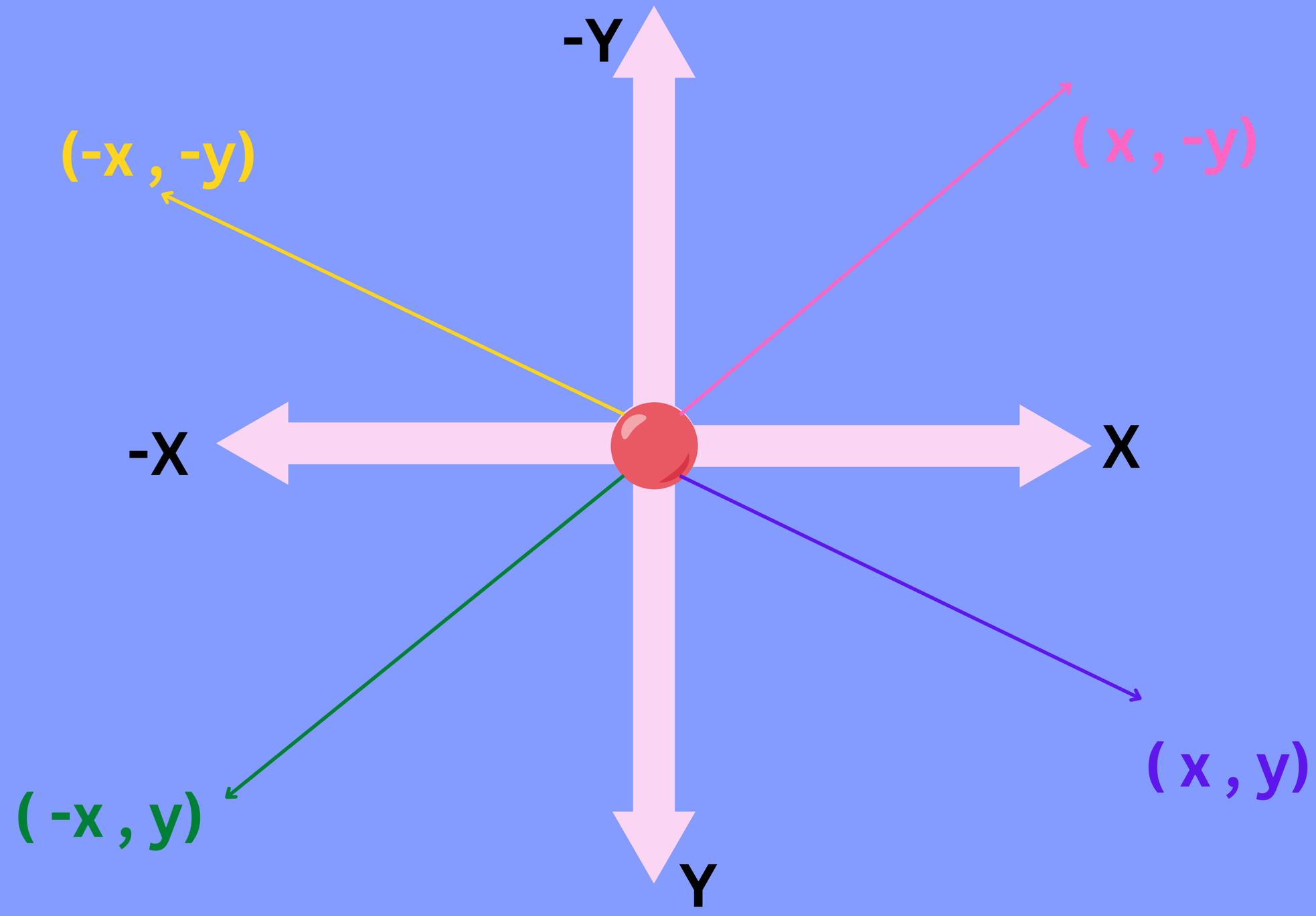
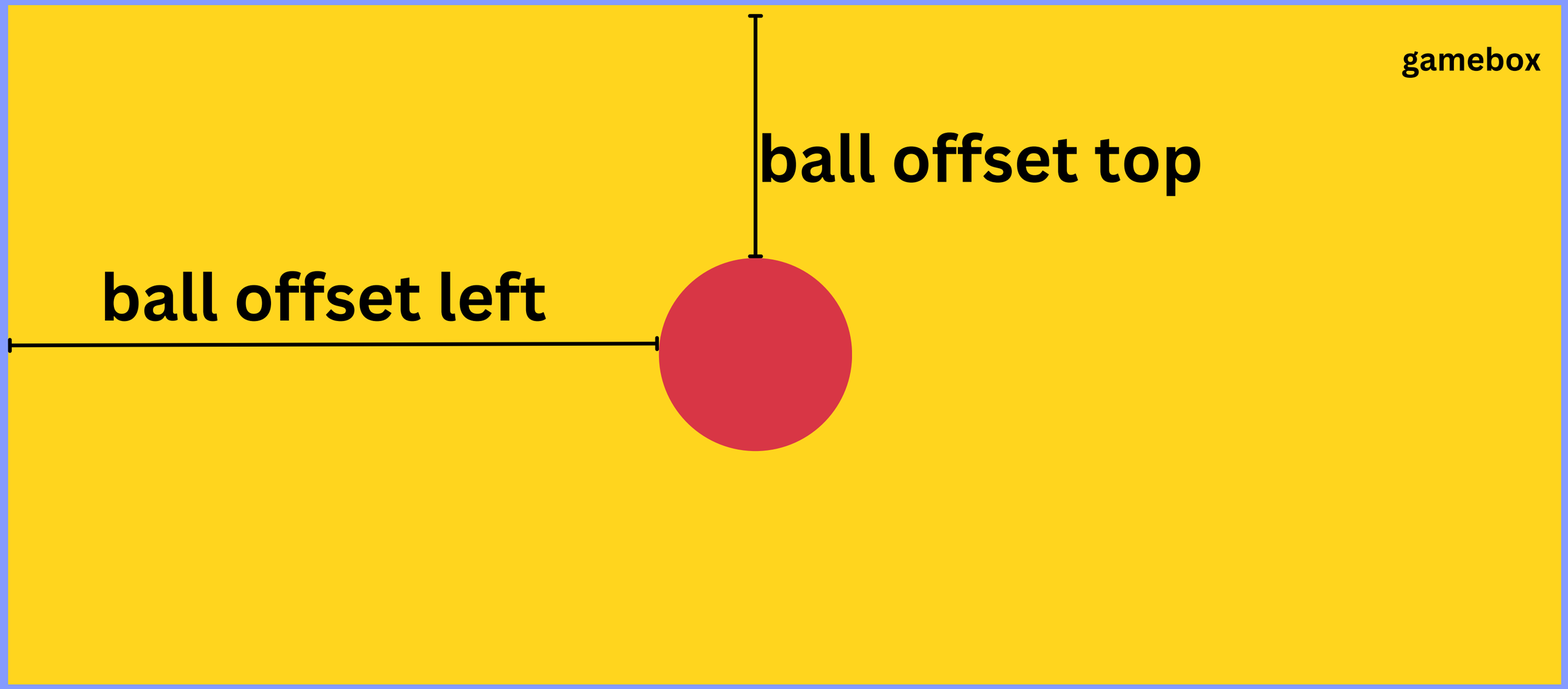
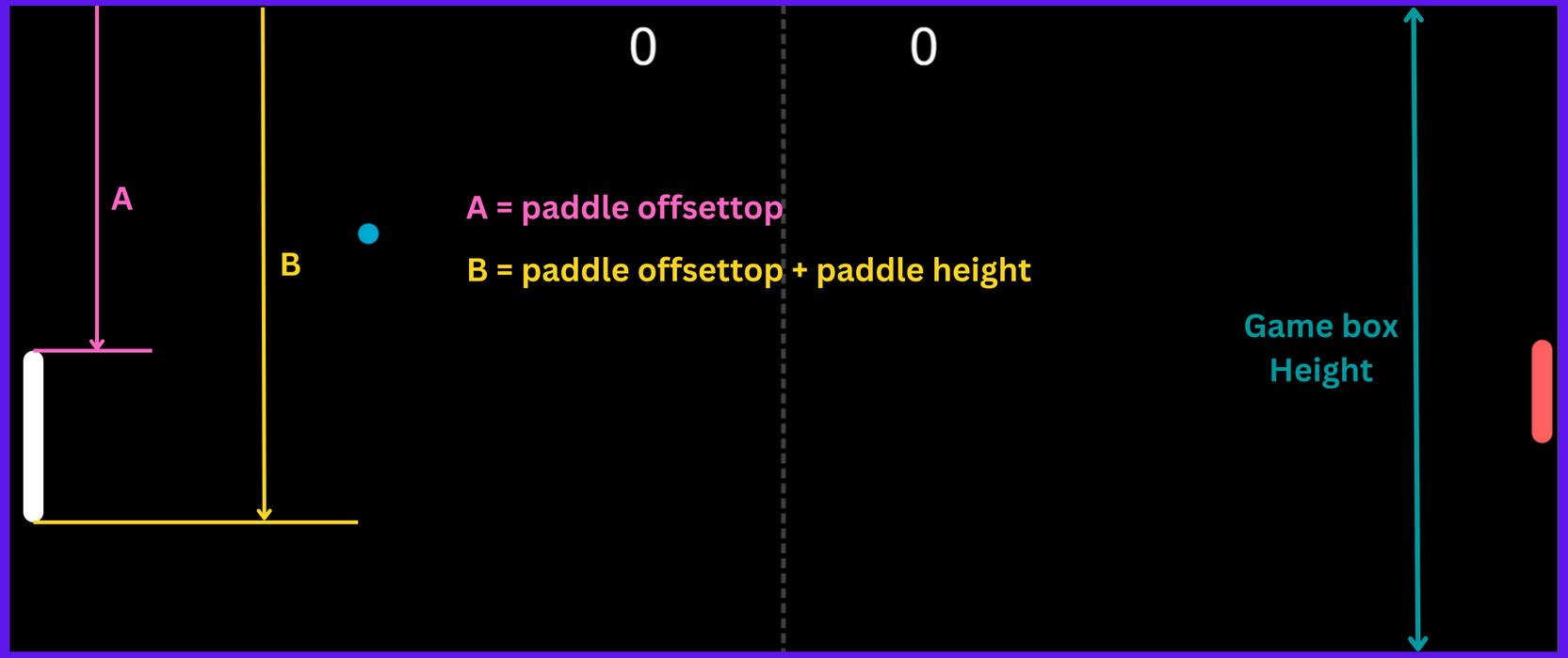
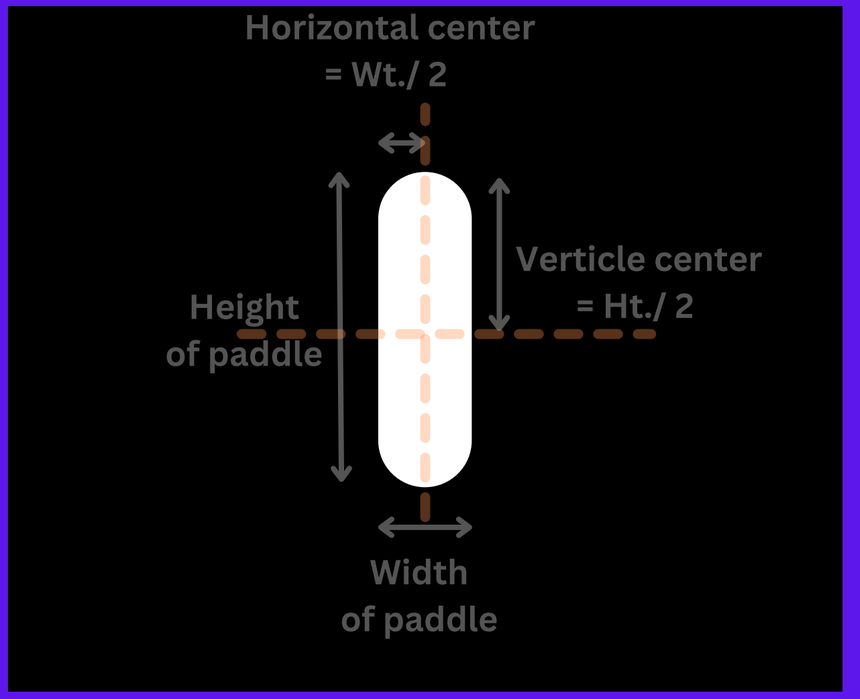

-Y
(-x , -y)
(x , -y)
-X
X
(-x , y)
(x , y)
Y

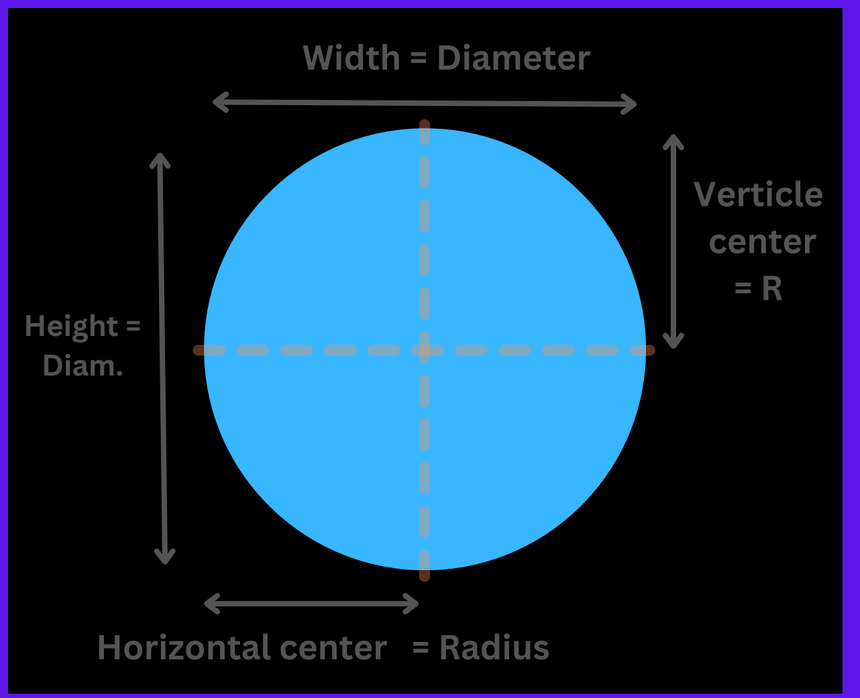
OFFSET

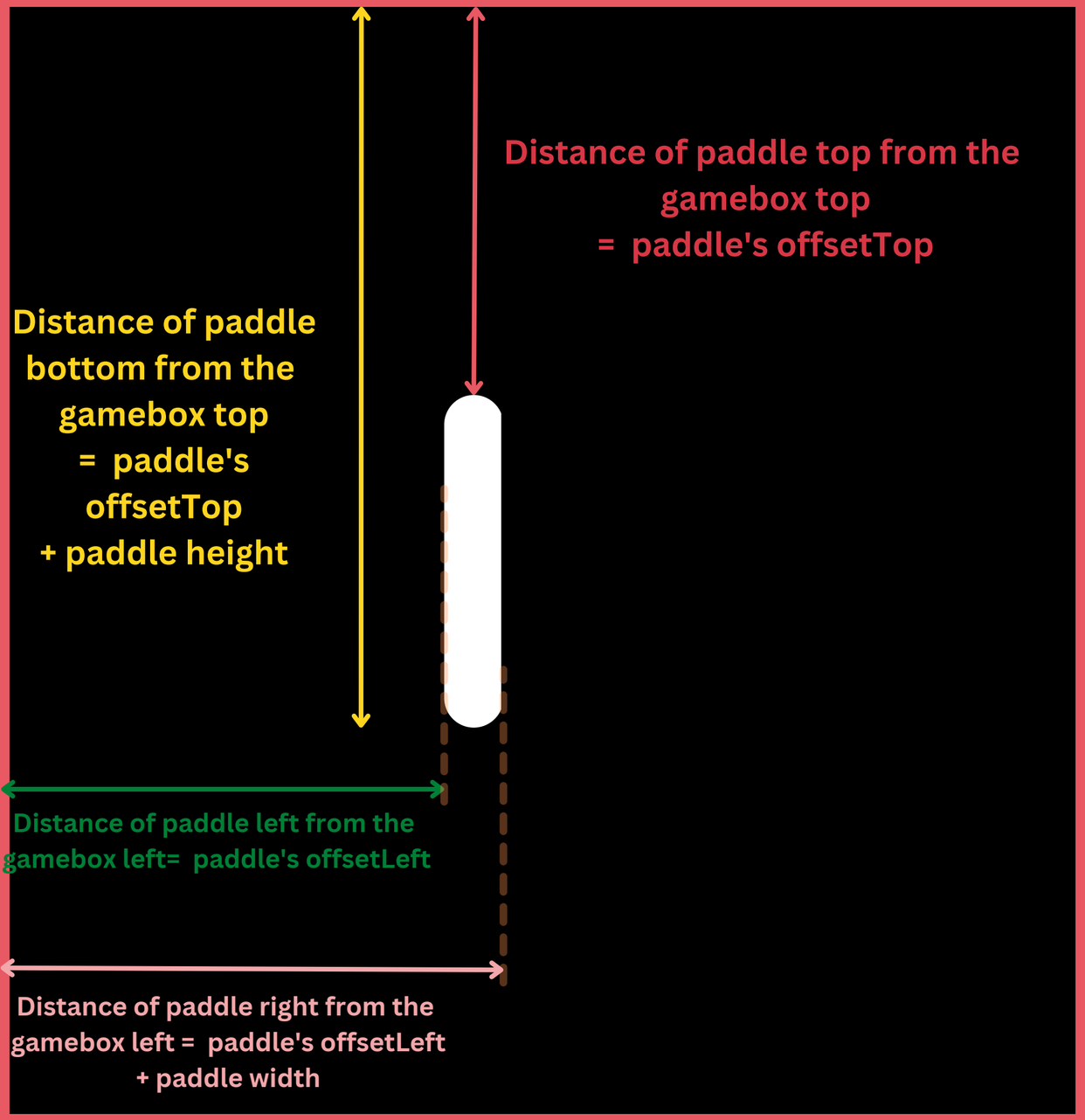

body
gamebox
ball offset top
ball offset left

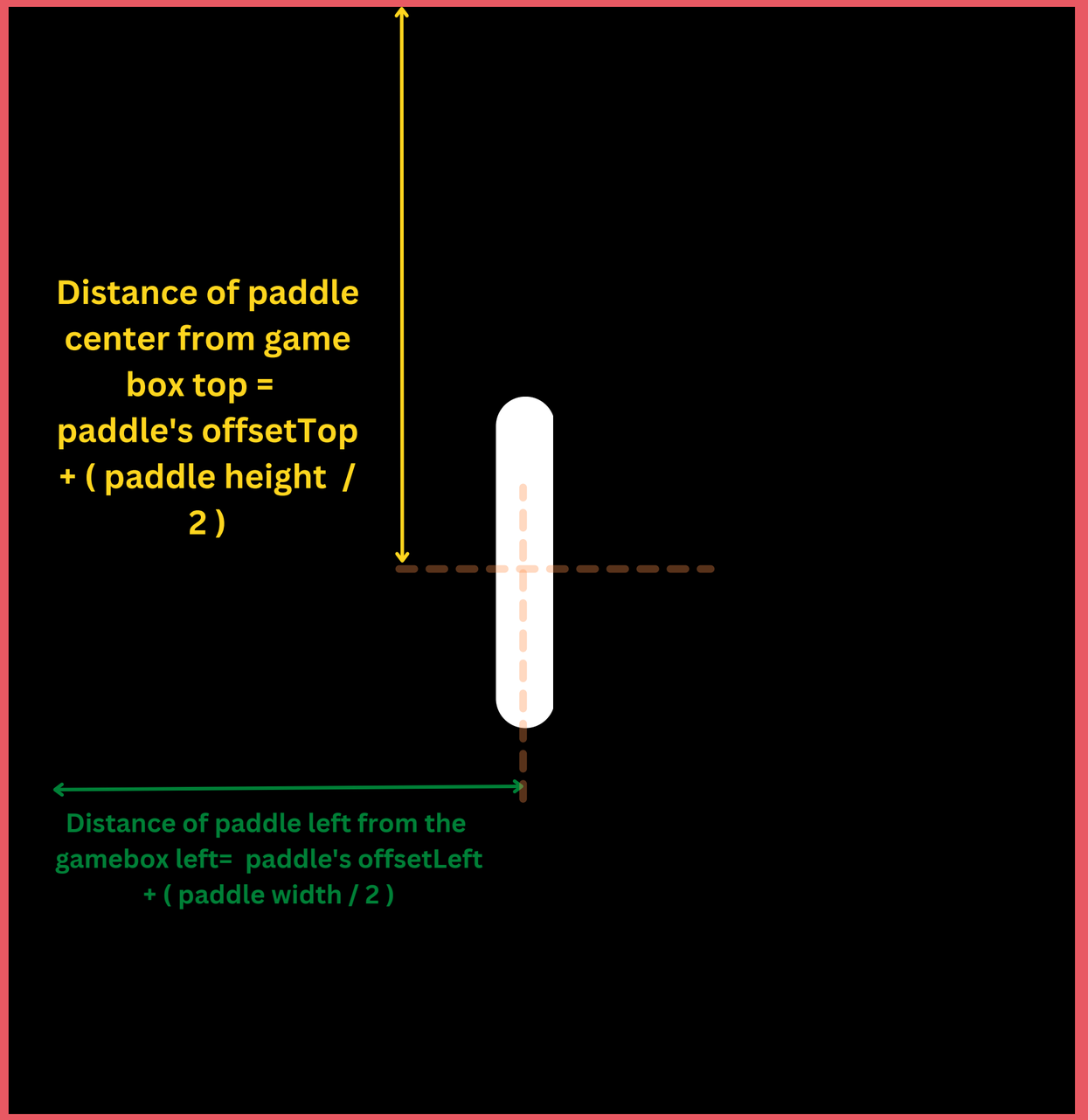

0
0
A
B
A = paddle offsettop
B = paddle offsettop + paddle height
Game box
Height

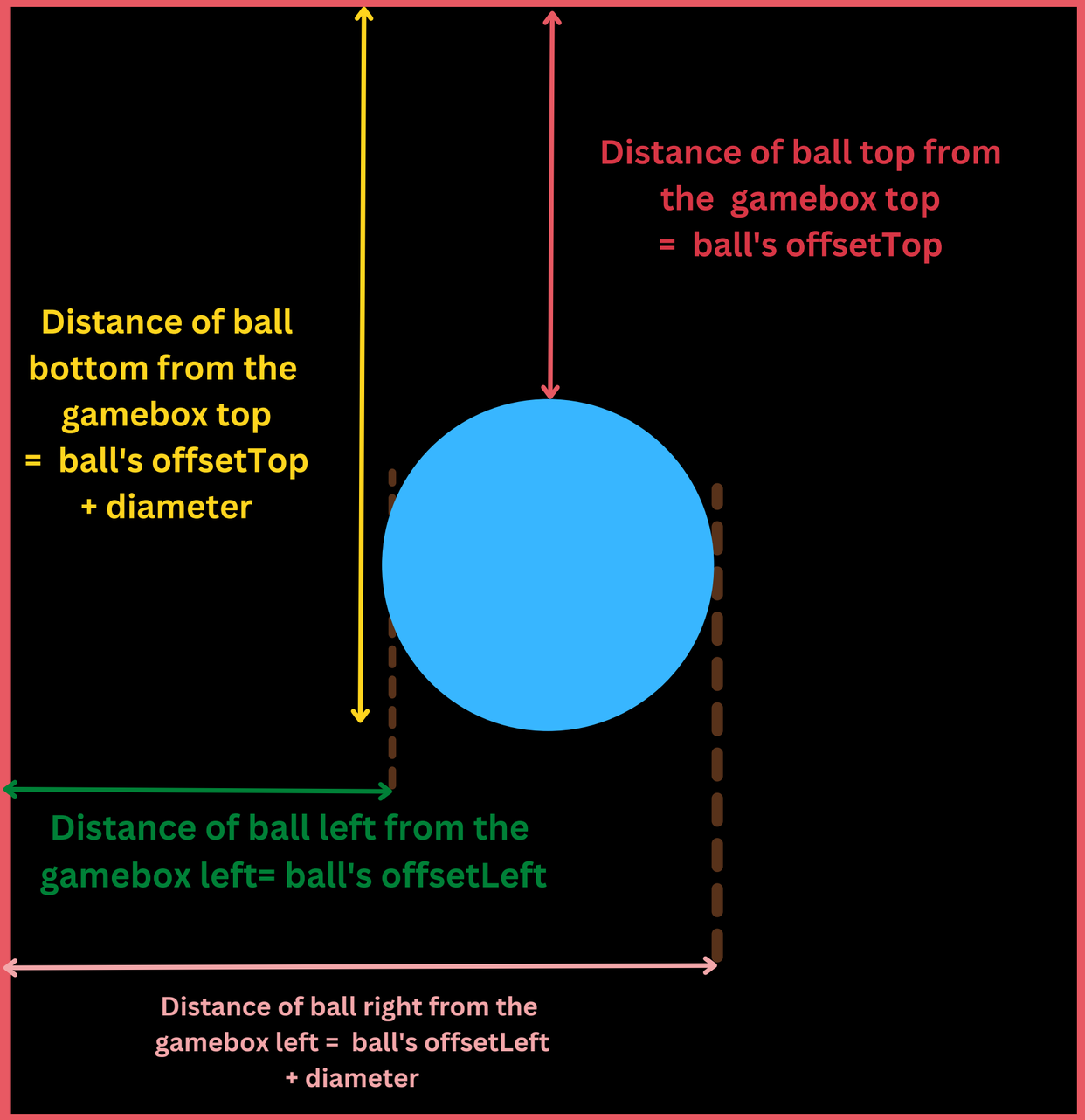

Horizontal center
= Wt./ 2
Verticle center
= Ht./ 2
Height
of paddle
Width
of paddle

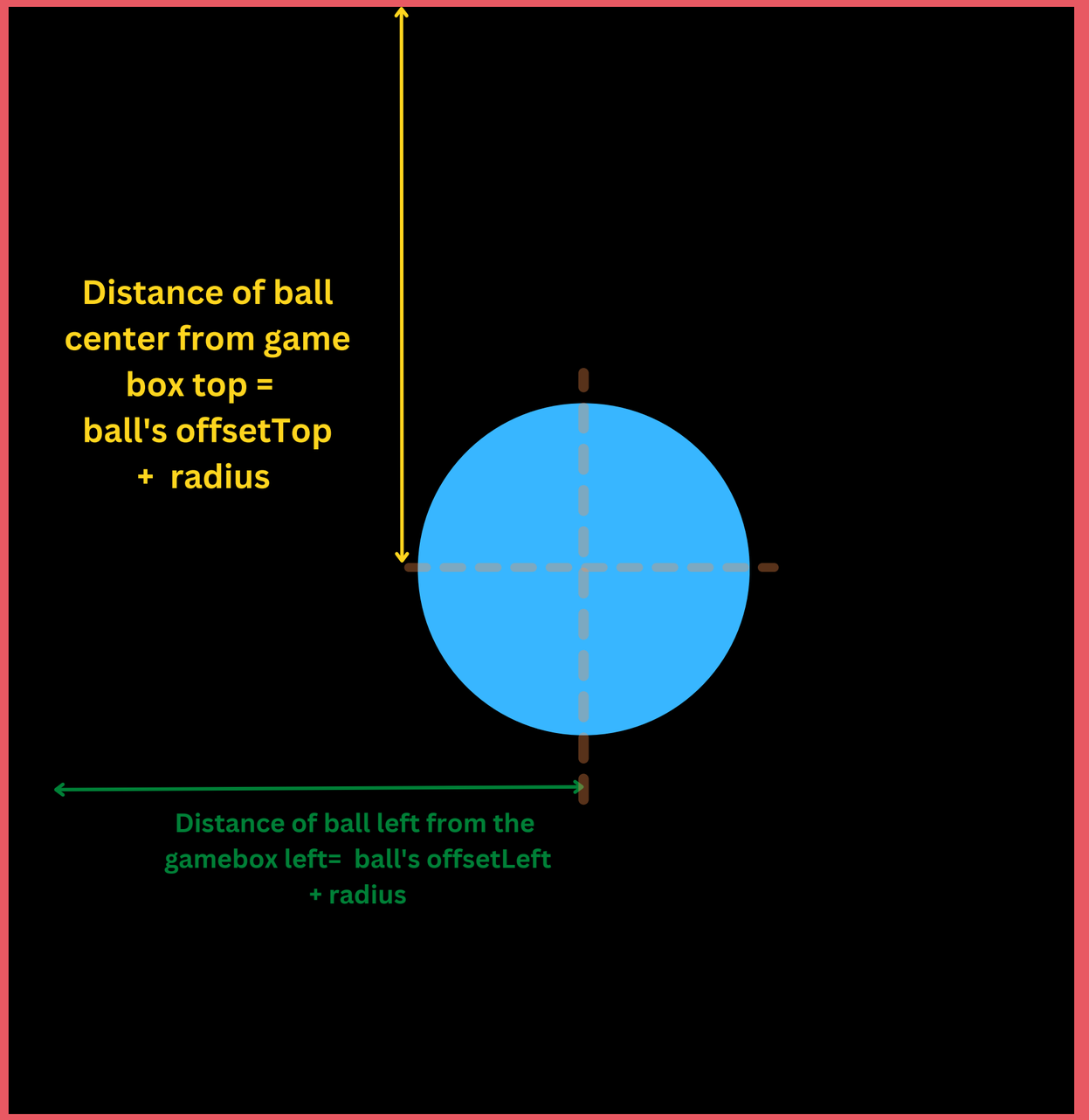
0
0
C
D
C = paddle offsetleft
B = paddle offsetleft + width
Game Box Width


Width = Diameter
Verticle
center
= R
Height =
Diam.
Horizontal center = Radius


Distance of paddle top from the gamebox top = paddle's offsetTop
Distance of paddle bottom from the gamebox top = paddle's offsetTop + paddle height
Distance of paddle left from the gamebox left= paddle's offsetLeft
Distance of paddle right from the gamebox left = paddle's offsetLeft + paddle width

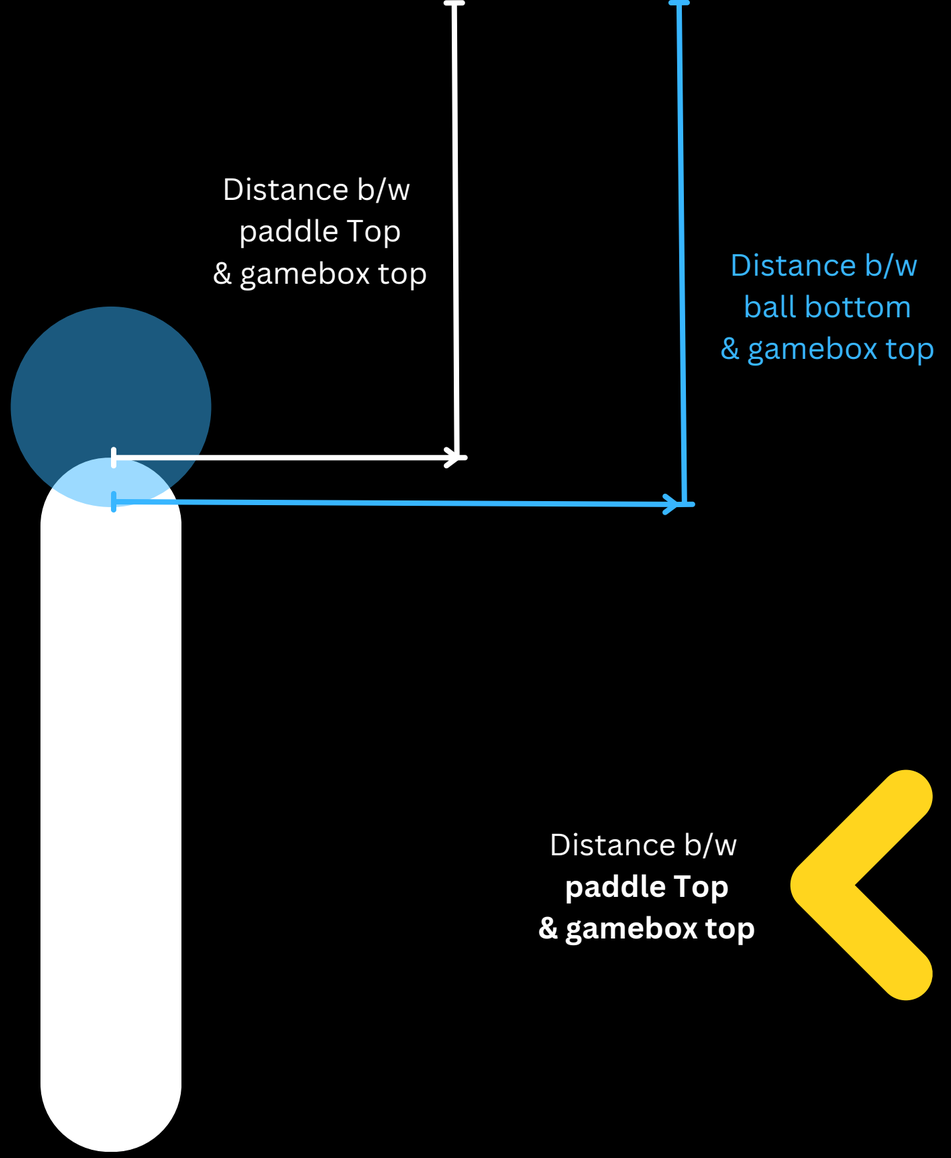

Distance of paddle center from game box top = paddle's offsetTop + (paddle height / 2)
Distance of paddle left from the gamebox left= paddle's offsetLeft + (paddle width / 2)


Distance of ball top from the gamebox top = ball's offsetTop
Distance of ball bottom from the gamebox top = ball's offsetTop + diameter
Distance of ball left from the gamebox left= ball's offsetLeft
Distance of ball right from the gamebox left = ball's offsetLeft + diameter


Distance of ball center from game box top = ball's offsetTop + radius
Distance of ball left from the gamebox left= ball's offsetLeft + radius

COLLISIONS

1



Distance b/w
paddle Top
& gamebox top

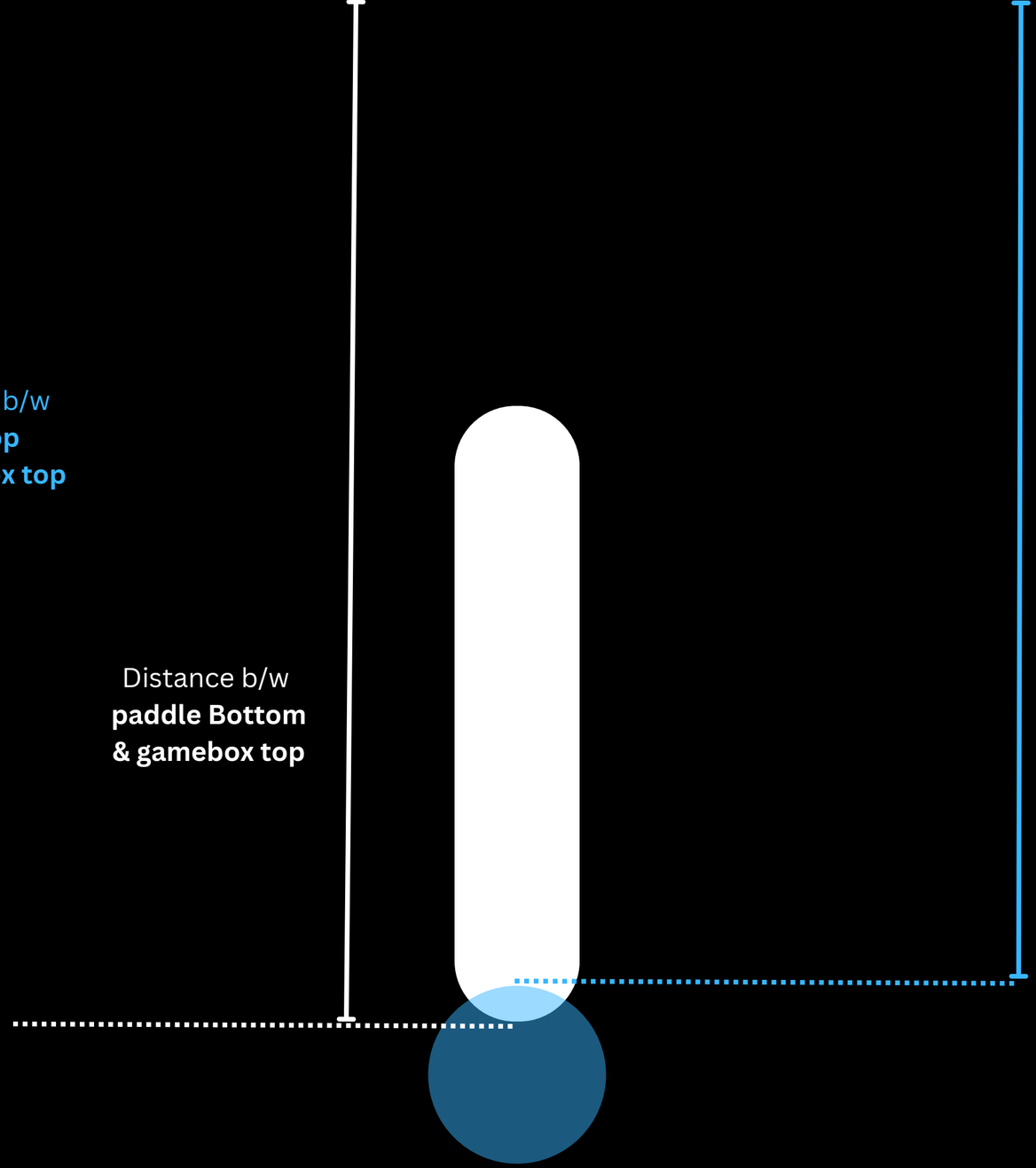
<

Distance b/w
ball bottom
& gamebox top

2

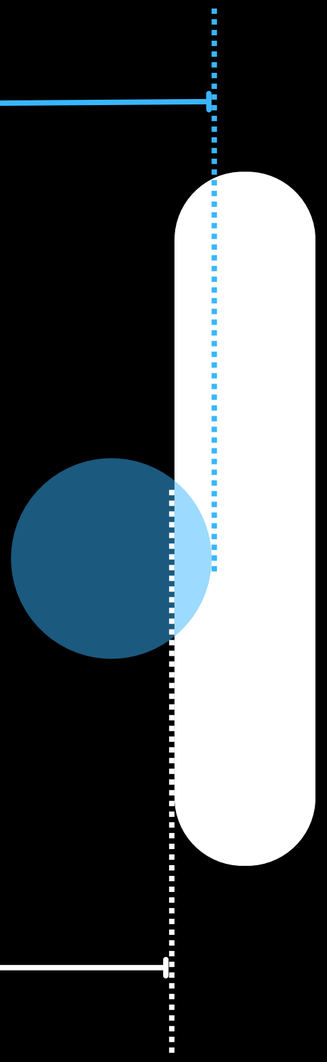
Distance b/w
paddle Bottom
& gamebox top

Distance b/w
ball top
& gamebox top



3

Distance b/w
ball right
& gamebox left



Distance b/w
paddle left
& gamebox left

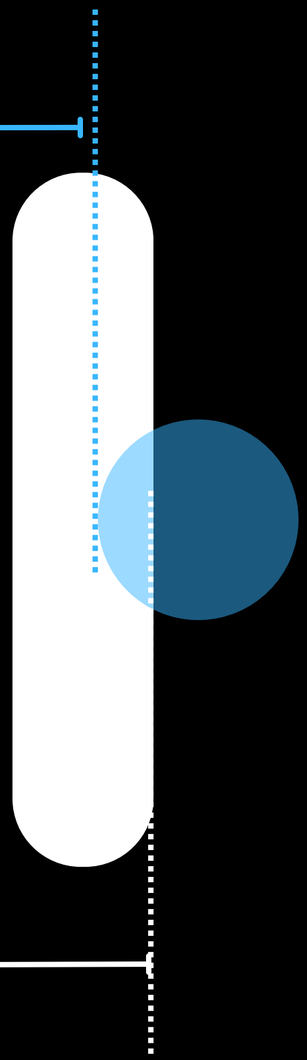
Distance b/w
paddle left
& gamebox left

<

Distance b/w
ball right
& gamebox left

4

Distance b/w
ball left
& gamebox left



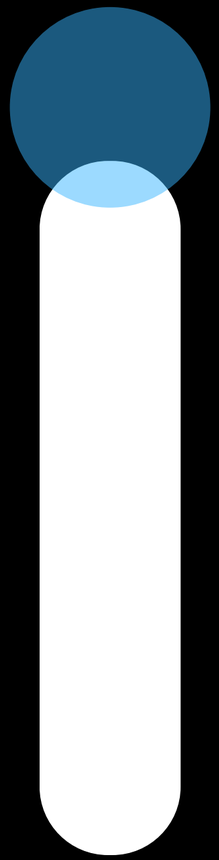
Distance b/w
paddle right
& gamebox left

Distance b/w
paddle right
& gamebox left

Distance b/w
ball left
& gamebox left

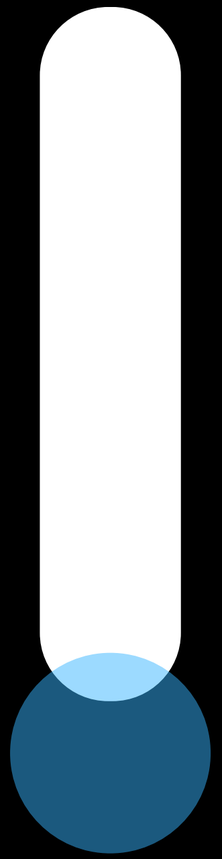
Distance b/w
paddle Top
& gamebox top

Distance b/w
ball bottom
& gamebox top



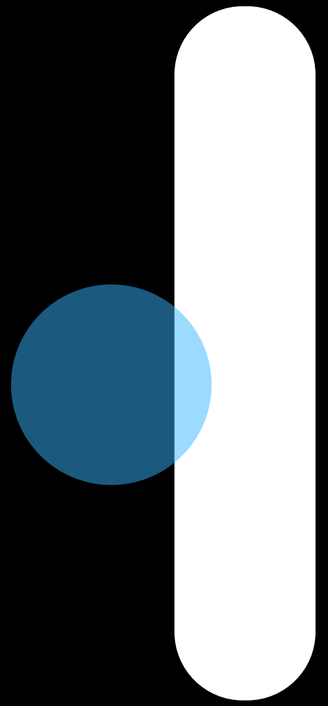
Distance b/w
paddle Bottom
& gamebox top

Distance b/w
ball top
& gamebox top



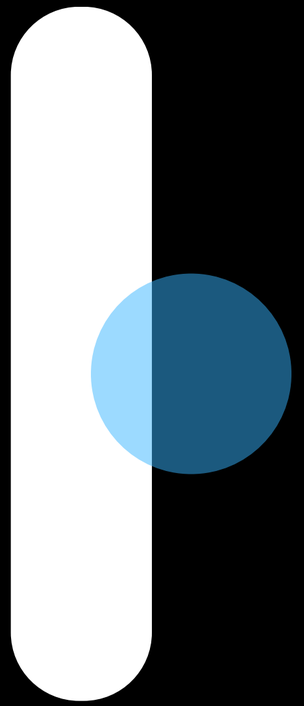
Distance b/w
paddle left
& gamebox left

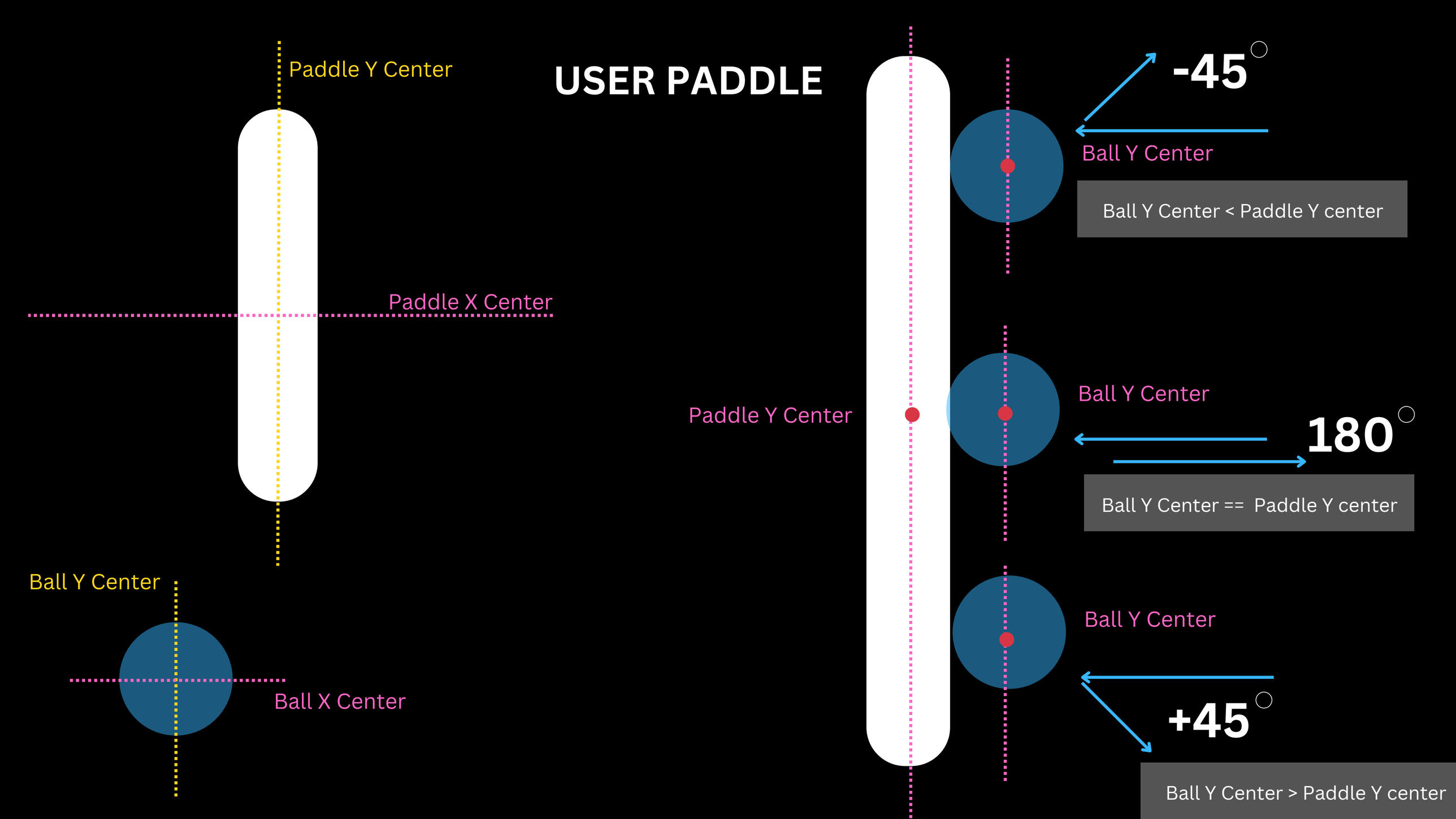
Distance b/w
ball right
& gamebox left



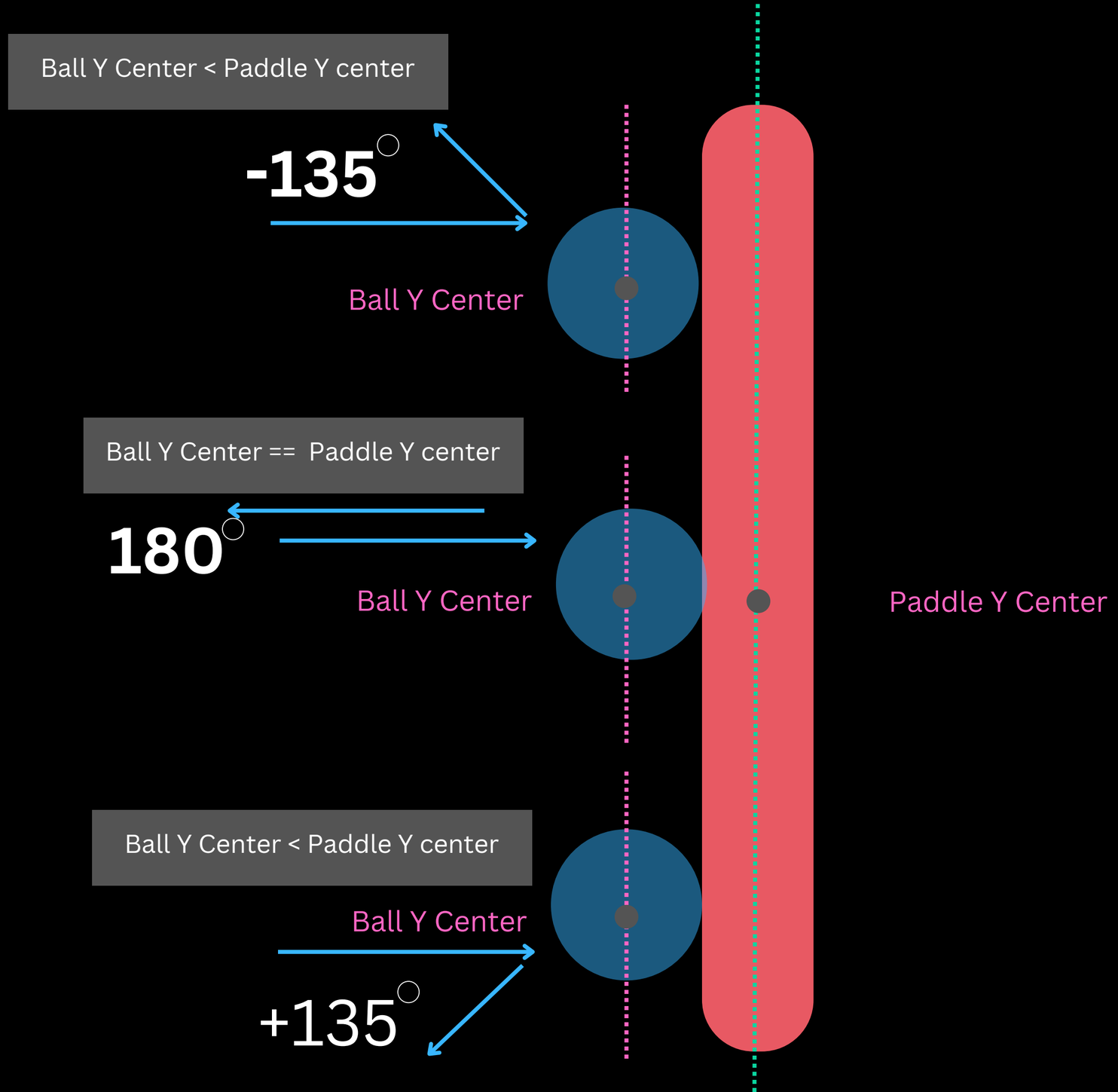
Distance b/w
paddle right
& gamebox left

Distance b/w
ball left
& gamebox left

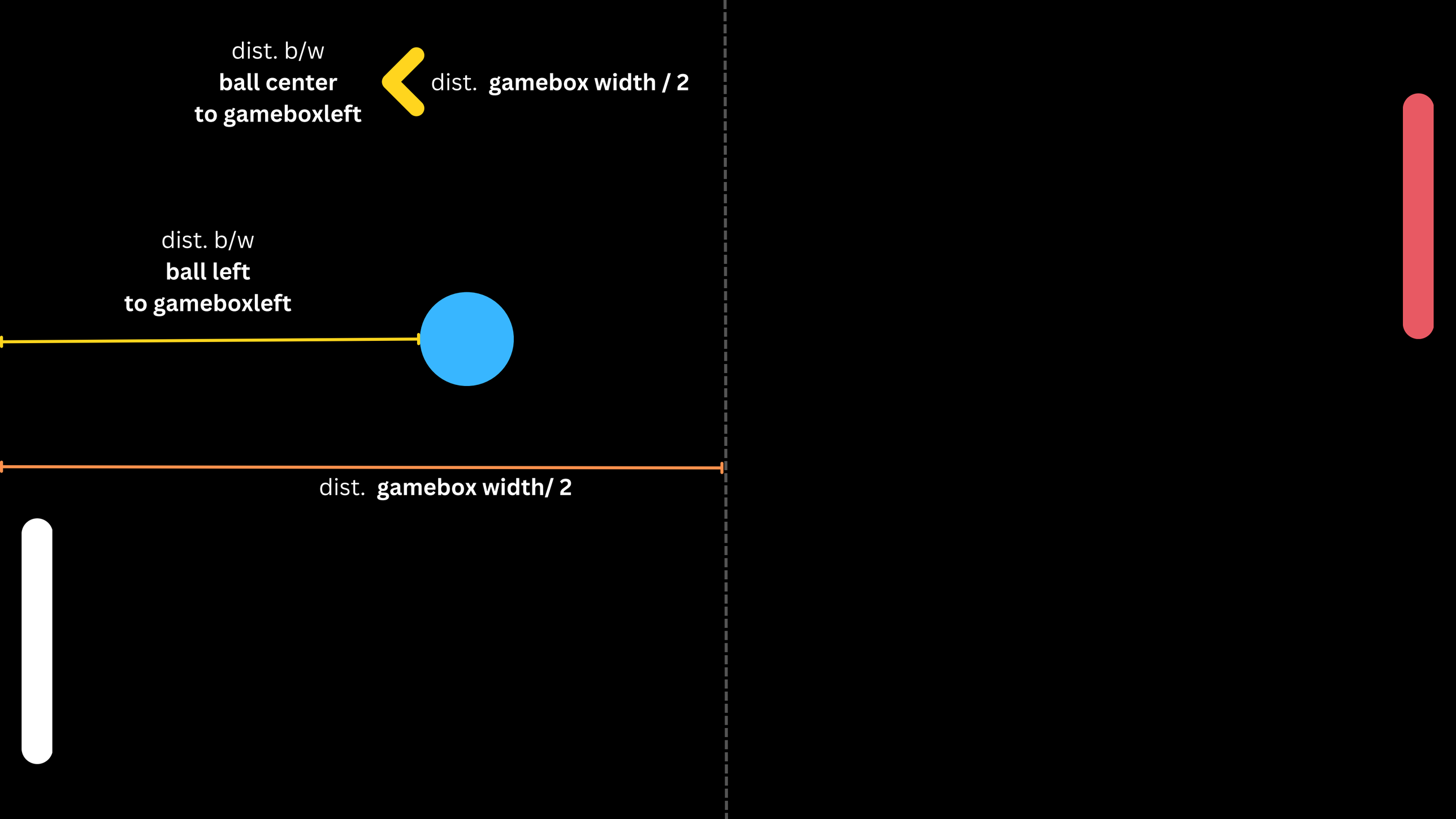


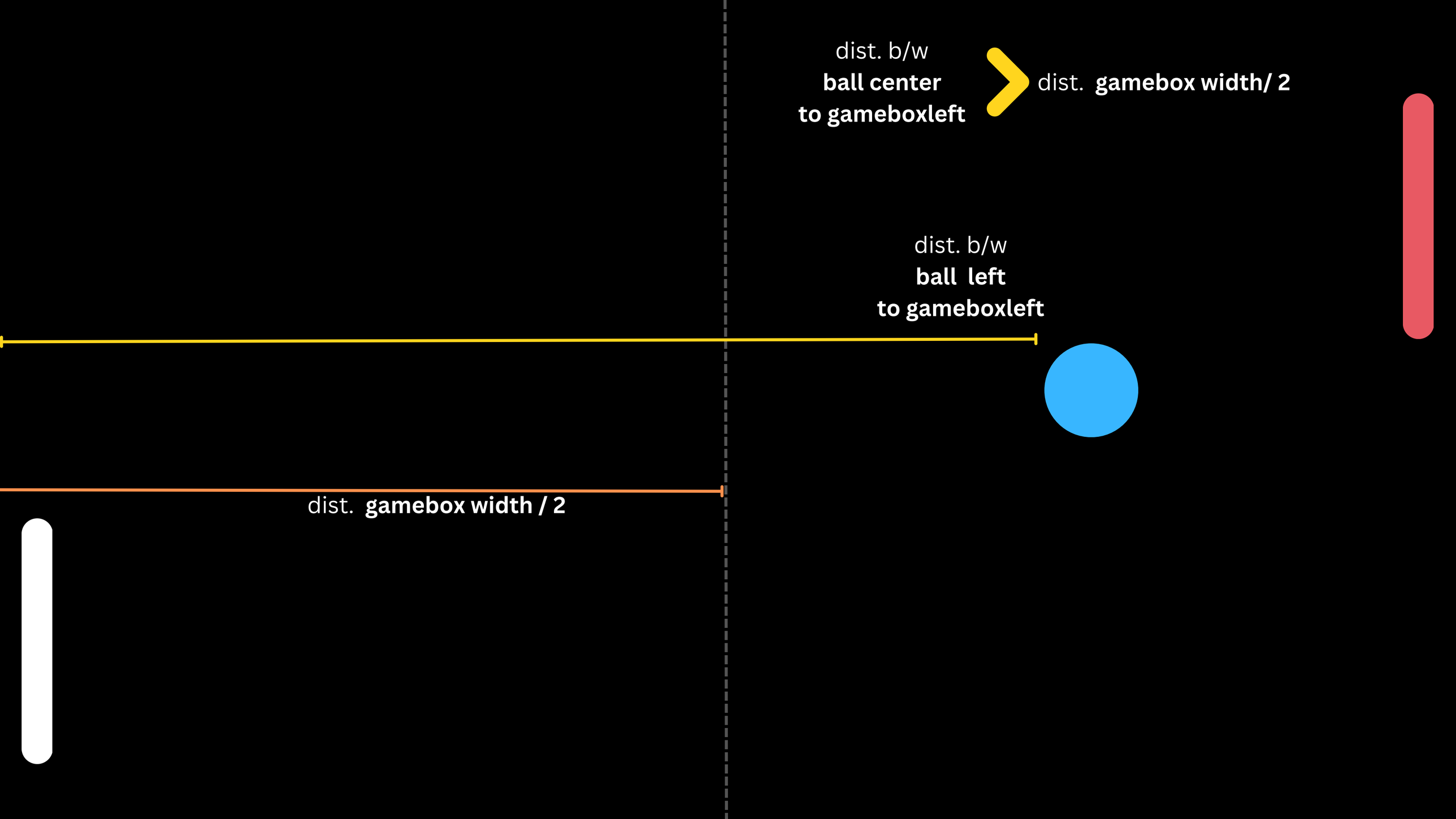

Paddle Y Center
Paddle X Center
Ball Y Center
Ball X Center
USER PADDLE
Paddle Y Center
-45°
Ball Y Center
Ball Y Center < Paddle Y center
Ball Y Center
180°
Ball Y Center == Paddle Y center
Ball Y Center
+45°
Ball Y Center > Paddle Y center

AI PADDLE

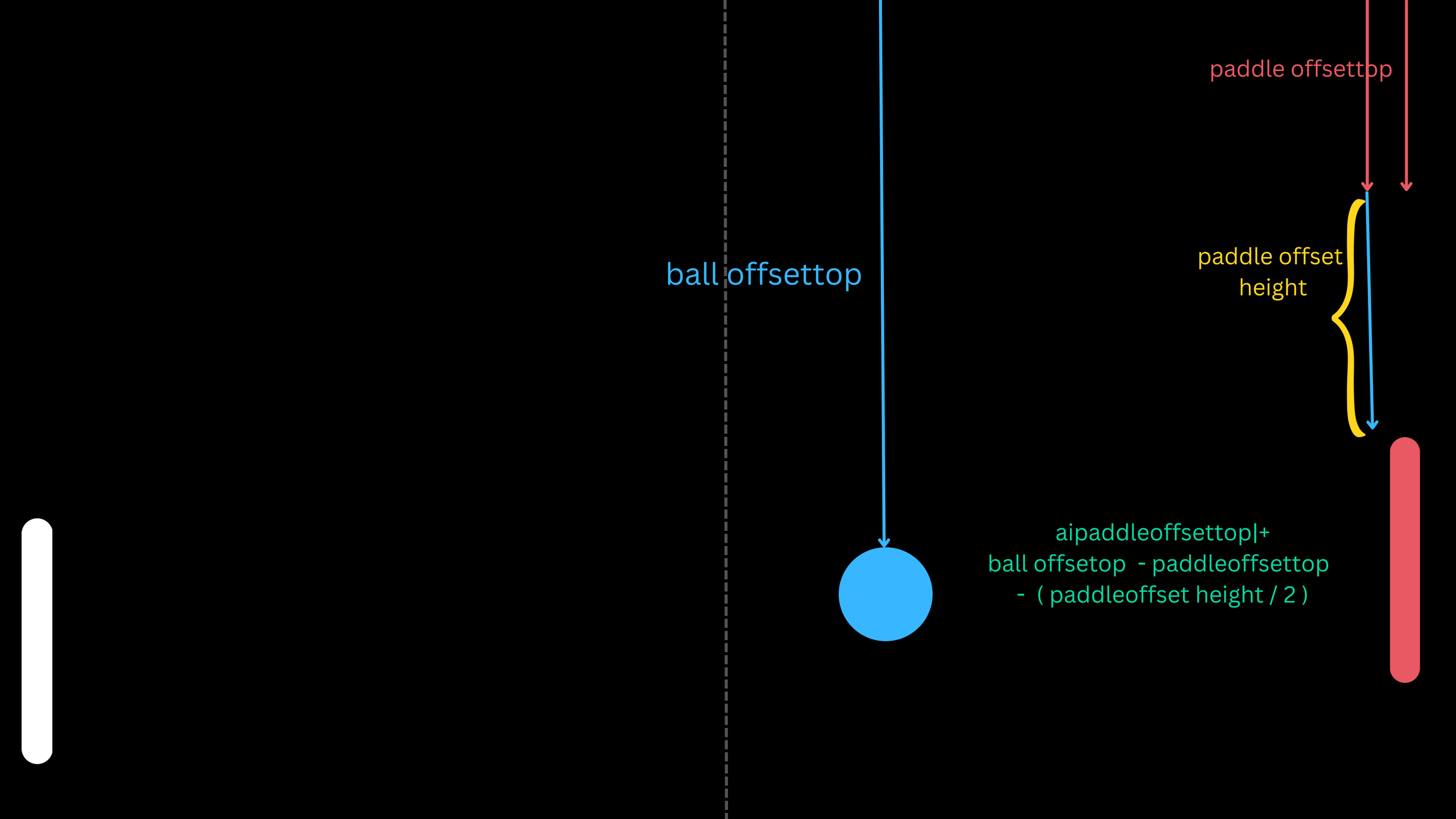

Ball Y Center < Paddle Y center
-135°
Ball Y Center
Ball Y Center == Paddle Y center
180°
Ball Y Center
Paddle Y Center
Ball Y Center < Paddle Y center
Ball Y Center
+135°

WHICH PADDLE WILL HIT THE BALL ?


dist. b/w
ball center
to gameboxleft
dist. gamebox width / 2
dist. b/w
ball left
to gameboxleft
dist. gamebox width/ 2


dist. b/w
ball center
to gameboxleft
dist. gamebox width/ 2
dist. b/w
ball left
to gameboxleft
dist. gamebox width / 2

AI PADDLE MOVEMENT


paddle offsettop
ball offsettop
paddle offset
height
aipaddleoffsettop|+
ball offsetop - paddleoffsettop
- (paddleoffset height / 2)