

## △ GAME LOGIC / PHYSICS

### 1. FORMULA FOR SPINNER :

$$\boxed{\omega = \theta / t}$$

↳  $\omega$  IS SPEED

↳  $\theta$  IS CHANGE IN ANGLE

↳  $t$  IS TIME

$$\boxed{a = (\omega_1 - \omega_0) / t}$$

↳  $a$  IS ACCELERATION

$$\boxed{\tau = r \cdot F}$$

↳  $\tau$  IS TORQUE

↳  $r$  IS RADIUS

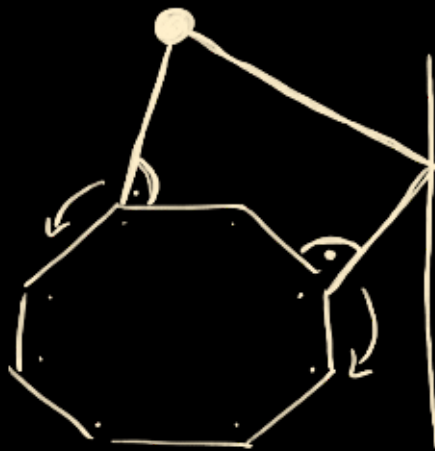
↳  $F$  IS FORCE



BUISLE SHOT BY USER WILL HAVE A CONSTANT SPEED. USE THAT SPEED AS THE FORCE THAT PUSHES ON THE SPINNER, CALCULATE HOW MUCH THE ANGLE WILL CHANGE AND ANIMATE THE SPINNER TURNING.

↳ FOR ANGLE OF BOUNCE:

EACH BUISLE WILL HAVE AN X AND Y VELOCITY WHICH WILL BE PERFECTLY REFLECTED IF IT HITS THE SIDE OF THE SCREEN



↳ EACH BUBBLE IS SURROUNDED  
 BY 6 OTHER BUBBLES IF  
 NOT EXTERNAL, THEN:  
 EACH POINT OF THE OCTA-  
 GON HAS  $X$  BUBBLES, ADD  
 BUBBLES CIRCULARLY UNTIL  
 ALL 8 ANGLES STACK UP  
 TO  $X$ . HOW TO LOCATE THE  
 ANGLES? :  $0^\circ, 45^\circ, 90^\circ, 135^\circ, 180^\circ,$   
 $225^\circ, 270^\circ, 315^\circ$



