ANGULAR COLLISIONS

● Angular Collisions happen when ONE of the TWO objects involved in the collision is rotating OR rotates as a result.

    - Similar to Linear Collisions: We use the Conversation of Momentum equation, but the _____ version:

$$\text{_____} = \text{_____}$$

$$\text{_____} = \text{_____}$$

    - For a Point Mass in linear motion, we use the linear version of the Angular Momentum equation → L = _____.

        - Where ____ is the distance between where the linear object collides and the axis of the rotating object.

        - Note: Adding mass to a rotating disc is an Angular Collision problem; but simple if the mass was at rest.

EXAMPLE: A 100 kg solid disc of radius 6 m spins <u>clockwise</u> around a perpendicular axis through its center at 120 RPM. A second solid disc, 50 kg in mass, 3 m in radius, is carefully placed on top of the first disc, as shown, causing the discs to spin together about the same axis. Calculate the new rate, in RPM, that the discs will have, if the second disc was initially: **(a)** at rest; **(b)** spinning counter-clockwise with 360 RPM.