

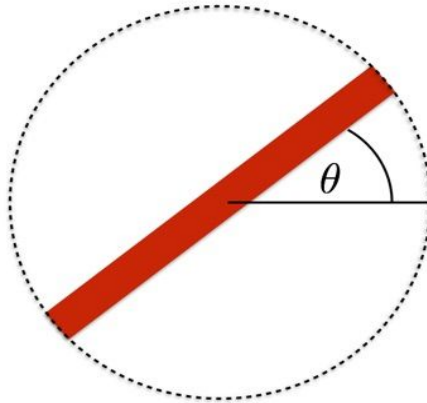
Week 1: Fidget Spinners!

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The Science Behind Fidget Spinners

To find out how long the fidget spinner will continue to spin for, we have to find the angular velocity

However before finding the angular velocity, one has to know basic rotational kinematics. Suppose I have a rotating object of some kind. Like, say, a bicycle wheel. I can determine the angular position at any point.



The Science Behind Fidget Spinners Continued

If the object continues to rotate such that θ changes, one can describe the rate of this change as angular velocity using the symbol ω . Below the average angular velocity is defined as:

$$\omega = \frac{\Delta\theta}{\Delta t}$$

The change in angular velocity can be described by the angular acceleration with the symbol α .

$$\alpha = \frac{\Delta\omega}{\Delta t}$$

If one finds the starting angular speed and a final angular speed of zero radians per second, one can calculate the spin time:

$$\Delta t = \frac{-\omega_i}{\alpha}$$

