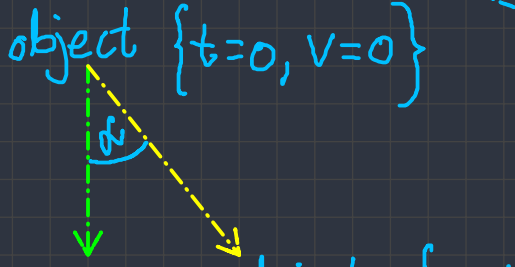
Work done:

The work done is equal to the product of the force and the distance travelled in the same direction of the force.

Work done = force × distance in direction of force

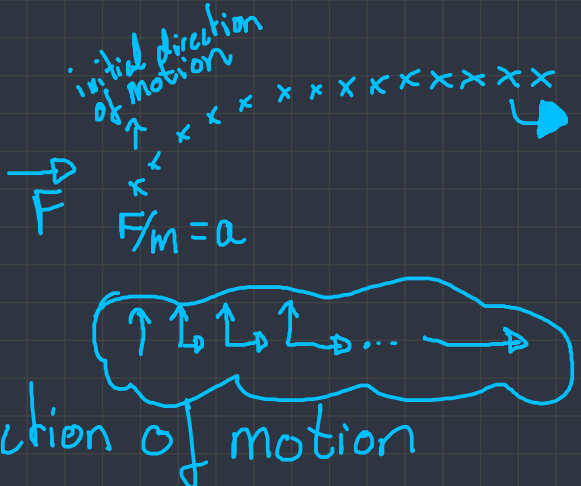
$W = F \times s \times \cos(\alpha)$

where α is the angle between the direction of force and the direction of motion.



object $\{t=t, ke = \int_0^t$

As α approaches 0, the rate of decrease of α increases. This is because the component of force in the direction of motion increases



α approaches zero as direction of motion approaches the direction of force as speed in direction of force increases and direction of motion $= \sqrt{V_x^2 + V_y^2}$

$V_y = u_y + a_y t = u_y + \frac{F_y}{m} t$

$a_y = \frac{F_y}{m}$

as t increases, force in direction of motion increases