

Newton's second law:

$$\vec{F}_R = m\vec{a}, \quad (1)$$

$$\vec{F}_R = \sum_i \vec{F}_i, \quad (2)$$

where \vec{F}_R - resultant force and \vec{F}_i are forces acting on the body.

Momentum (\vec{P}) can be expressed as:

$$\vec{P} = m\vec{V} = \vec{F}\Delta t. \quad (3)$$

Where velocity (\vec{V}) is equal to

$$\vec{V} = \vec{a}\Delta t \quad (4)$$

Make 3 tables with 5 measurements each corresponding to 3 cases: a) $F_{net}, m_w = const$,
b) $m_w, \Delta t = const$, c) $F_{net}, \Delta t = const$. Format them as:

m_w, kg	F_{net}, N	$\Delta t, s$	t_{gate}, s	$V_w, m/s$	$F_{net} * \Delta t, kg * m/s$