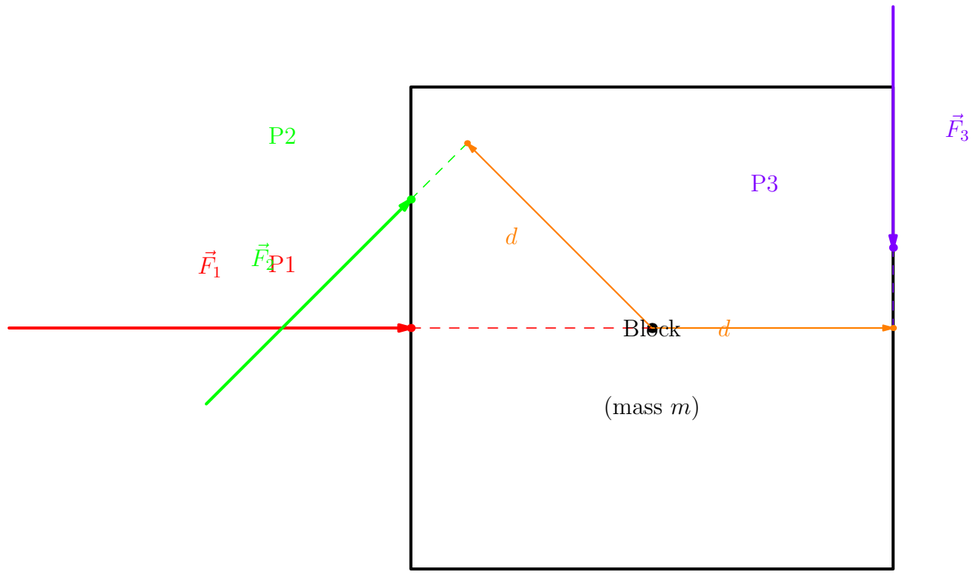
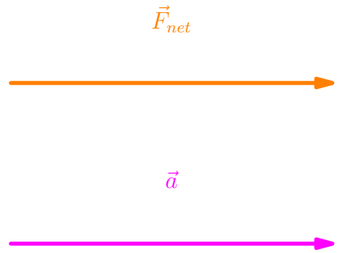
Canvas (1280x720)

Newton's Second Law:

$$\vec{F}_{net} = m\vec{a}$$

The acceleration of an object is proportional to the net force and inversely proportional to its mass





Net Force:

$$\vec{F}_{net} = \vec{F}_1 + \vec{F}_2 + \vec{F}_3$$

Acceleration:

$$\vec{a} = \frac{\vec{F}_{net}}{m}$$

Direction:

Same as $\vec{F}_{net}$

Multiple forces acting on the block:

$\vec{F}_1$: Horizontal push (2.5 units)

$\vec{F}_2$: Angled force at 45° (1.8 units)

$\vec{F}_3$: Downward force (1.5 units)

Key: The block accelerates in the direction of the net force!