
Worksheet 6: Newton's Laws

Objectives

- Analyze forces in mechanical equilibrium.
- Determine the effect of a nonzero net force on an object.
- Identify the directions and magnitudes of forces between interacting objects.

Summary

Newton's 1st law ***Newton's 2nd law*** ***Newton's 3rd law***

$$\Sigma \vec{F} = \vec{0} \Leftrightarrow \vec{a} = \vec{0}$$

$$\vec{a} = \Sigma \vec{F} / m$$

$$\vec{F}_{A \rightarrow B} = -\vec{F}_{B \rightarrow A}$$

Problems

1. Draw free body diagrams for the following objects.

a. A block resting on an incline.

b. A bird perched on a wire.

c. A baseball in flight.

d. A cart pulled by a horse.

e. A dog straining at a leash, but not going anywhere.

