

Cycle 3 - Force Diagrams

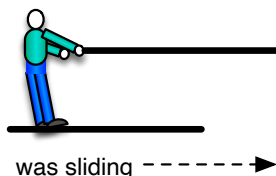
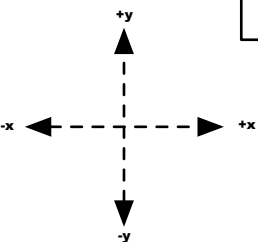
Check-in #6

x-direction Forces

Draw all the forces acting on the object/person and calculate the net force

Fnet	direction

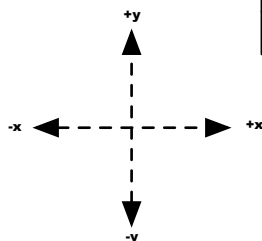
- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The person exerts a tension force of 100N on the rope, while they feel 120 N of force from friction

Fnet	direction

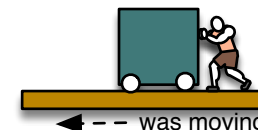
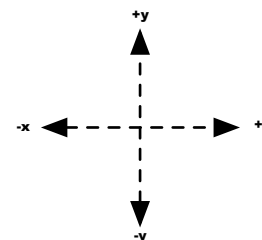
- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The plane's propeller provides 500N of thrust while there is 400N of drag.

Fnet	direction

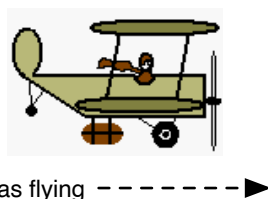
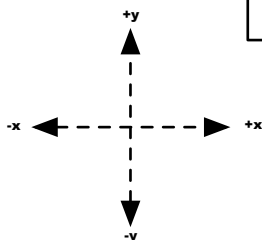
- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The box experiences 50 N of friction

Fnet	direction

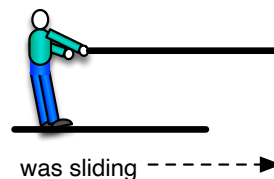
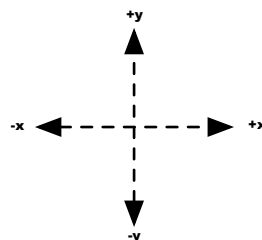
- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The plane's propeller provides 750N of thrust while there is 800 N of drag.

Fnet	direction

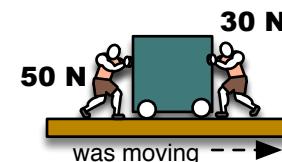
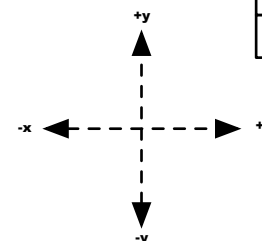
- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The person feels 50N of tension force from the rope, and experiences 50N of friction.

Fnet	direction

- ☐ gaining speed.
- ☐ constant speed.
- ☐ losing speed.



The box experiences 20 N of friction

Cycle 3 - Force Diagrams

Y-direction Forces

Draw all the forces acting on the object/person and calculate the net force

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The box weighs 450 N.
The tension in the rope is 500 N. (The box is not on the ground.)

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The man weighs 500 N
He experiences Drag from the air as he falls downward at a constant speed.

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The woman weighs 500 N
She is at rest and staying at rest.

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The box weighs 320 N.
The tension in the rope is 300 N. (The box is not on the ground.)

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The man weighs 500 N
He experiences 300 N of Drag from the air upwards as he falls downwards.

Fnet	direction

+y

↑

-x

←

+x

→

-y

↓

☐ gaining speed.
☐ constant speed.
☐ losing speed.

The box weighs 200 N.
The person pushes upward on it with a force of 300 N.