

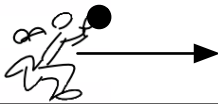
**What do you remember about dot patterns?**

Describe the motion of the cars.



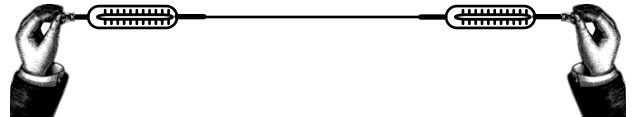
**What do you remember about the 1st Law?**

If he releases the ball while running, will it continue moving forward or drop straight down?



**What do you remember about tension?**

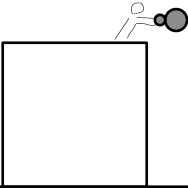
What is true of the tension at both ends?



**What do you remember about falling objects?**

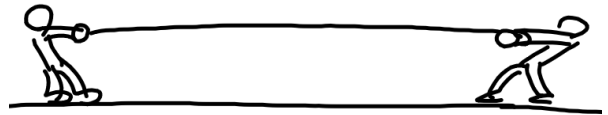
Do heavier objects fall faster?

What causes objects to fall faster or slower?



**What do you remember about tug of war?**

What is the most important factor?



**What do you remember about the 3rd Law?**

In order to go one way, what must you do?



**What do you remember about friction?**

Calculate who wins.

Andre the Giant  
W = 1600 N

Odysseus  
W = 1000 N



Bunny Slippers  
CoF = 0.25



Air Max 90  
CoF = 0.5

**What do you remember about Mass and Weight?**

Is it a mass or a weight issue?

\_\_\_\_\_ It hurts when it hits me.

\_\_\_\_\_ It's heavy.

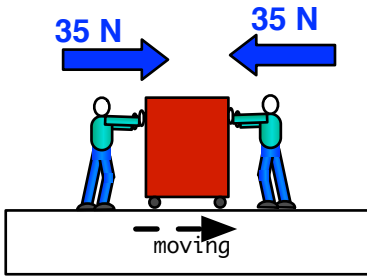
**What do you remember about the orbiting astronauts?**

Why are they weightless?

\_\_\_\_\_ There's no gravity in space.

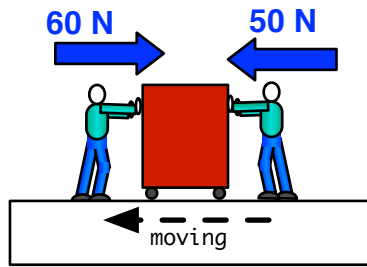
\_\_\_\_\_ They're really far away.

\_\_\_\_\_ Other: \_\_\_\_\_



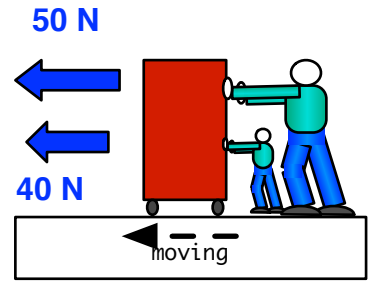
$F_{net} =$  \_\_\_\_\_ R or L?

- \_\_\_ Speeding up.
- \_\_\_ Slowing down.
- \_\_\_ Maintaining speed.



$F_{net} =$  \_\_\_\_\_ R or L?

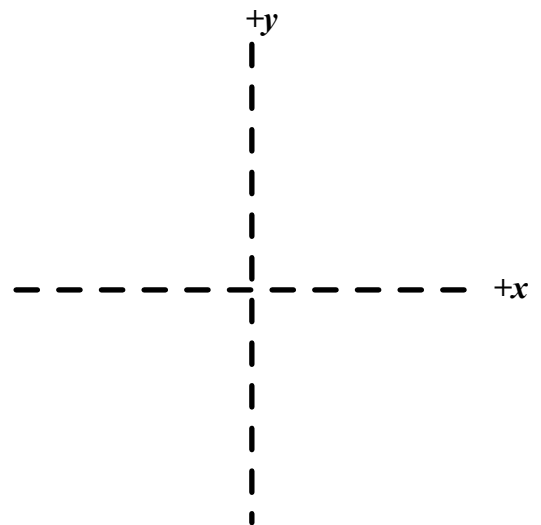
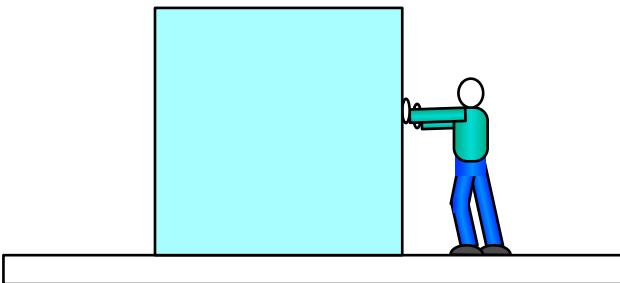
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The person pushes the box across the floor to the left with a force of 300 N.  
 The box encounters 100 N of friction.  
 The box weighs 200 N and its mass is 20 kg.



- a) Draw arrows for forces on the diagram, including any up-forces from surfaces.
- b) Label forces on the diagram with the proper amounts.
- c) Calculate the Net Force below, and then calculate the speed up (acceleration.)

Net Force Calculation:

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