Net force with Acceleration

We already have practice with Net Force from our last unit. Here's we're able to be more precise with the acceleration by using the 2nd law of motion.

$$F_{net} = (mass) \times (acceleration)$$

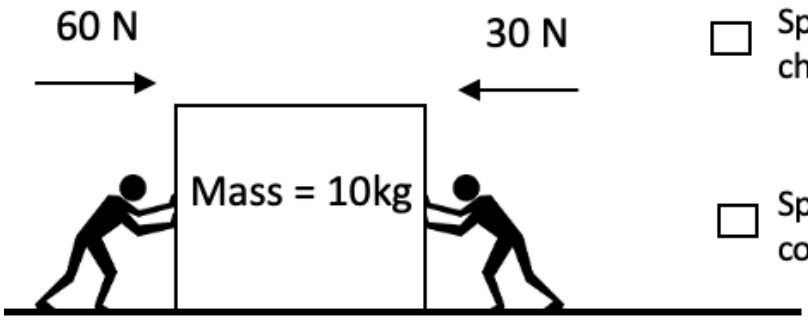
This can also be written as…

$$\frac{F_{net}}{mass} = acceleration$$

OR

$$\frac{F_{net}}{acceleration} = mass$$

Example:

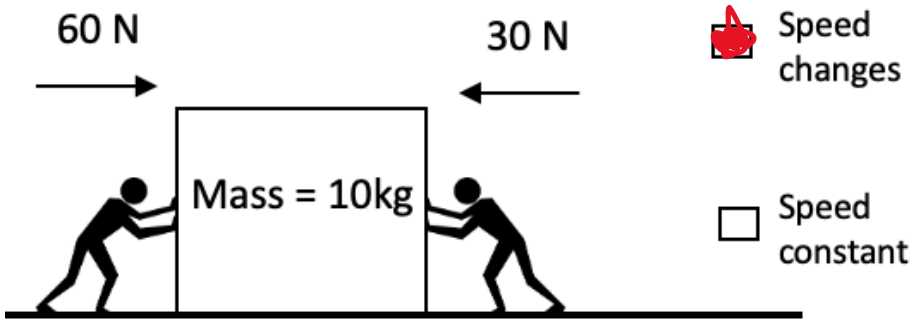


☐ Speed changes

☐ Speed constant

F_{Net}	Direction	Acceleration

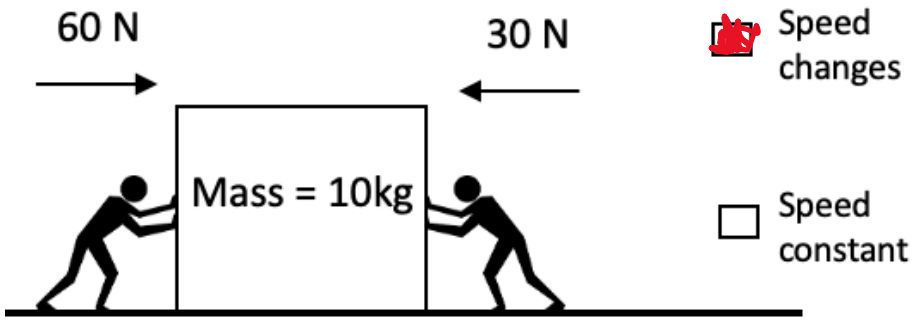
Example:



F_{Net}	Direction	Acceleration
30N	→	

There isn't anything too much different from what we would do from out last unit. We know the net force but subtracting since they're going in opposite direction, and we know which direction it's pointing.

Example:



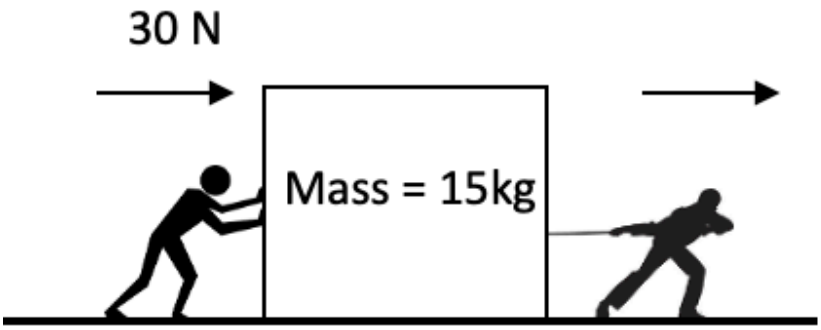
F_{Net}	Direction	Acceleration
30 N	→	3 m/s/s

We know than Fnet is 30 N, and since the mass is 10 kg, from second law we know that…

$$\frac{F_{net}}{mass} = acceleration$$

$$\frac{30}{10} = 3\ m/s/s$$

Example:

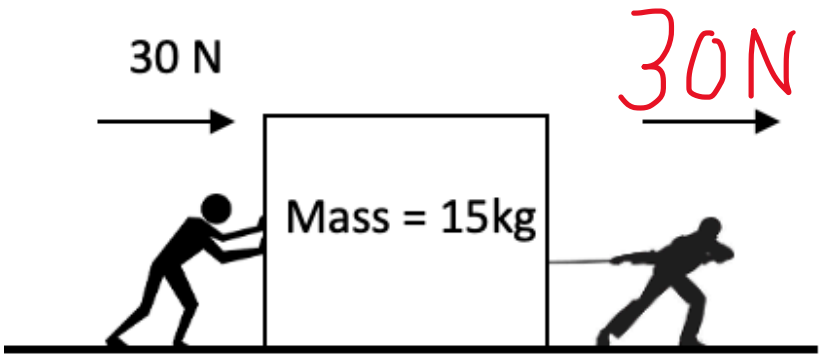


☐ Speed changes

☐ Speed constant

F_{Net}	Direction	Acceleration
60 N	→	

Example:



☒ Speed changes

☐ Speed constant

F_{Net}	Direction	Acceleration
60 N	→	4 m/s/s