

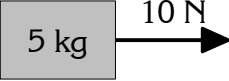
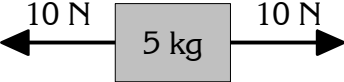
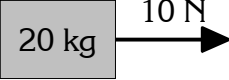
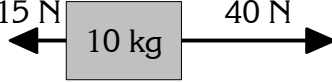
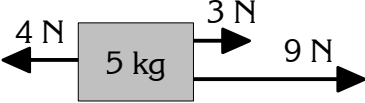
## Newton's Second Law Exercises

The biggest idea in physics:

$$F_{net} = m \cdot a \qquad a = \frac{F_{net}}{m} \qquad m = \frac{F_{net}}{a}$$

Remember that if there are multiple forces on an object, this law refers to the **net force** (total amount of force) acting on the block. If some forces point in the + direction and others in the - direction, make sure you include those signs when finding the total!

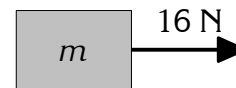
### *Find the acceleration:*

1) Show your work to find the acceleration of this box:	
2) Show your work to find the acceleration of this box:	
3) Show your work to find the acceleration of this box:	
4) Show your work to find the acceleration of this box:	
5) Show your work to find the acceleration of this box:	

**Mixed practice problems:**

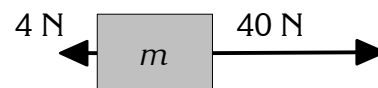
1) Show your work to find the mass of this box:

$$a = 2 \text{ m/s}^2$$



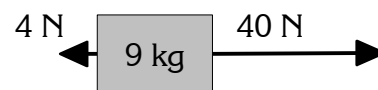
2) Show your work to find the mass of this box:

$$a = 2 \text{ m/s}^2$$



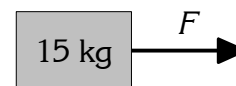
3) Show your work to find the acceleration of this box:

$$a$$



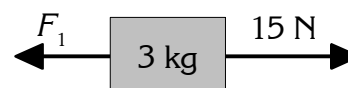
4) Show your work to find the net force on this box:

$$a = 3 \text{ m/s}^2$$



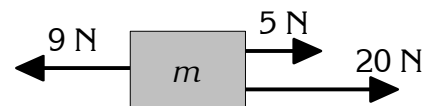
5) Show your work to find the unknown force,  $F_1$ , on this box:

$$a = 2 \text{ m/s}^2$$



6) Show your work to find the mass of this box:

$$a = 8 \text{ m/s}^2$$



7) Show your work to find the unknown force,  $F_1$ , on this box:

$$a = 3 \text{ m/s}^2$$

