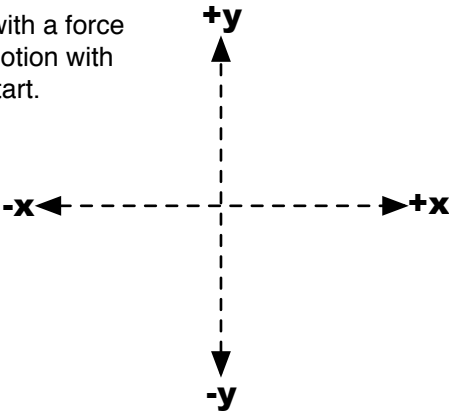


Cycle 8: 2nd Law

Speed Change with Net Force A

The 1,000 kg car’s engine pushes forward with a force of 5,000 N. Drag from the air opposes its motion with a force of 3,000 N. The car was at rest to start.

- a) Calculate its speed change factor.
- b) Fill in the table below.

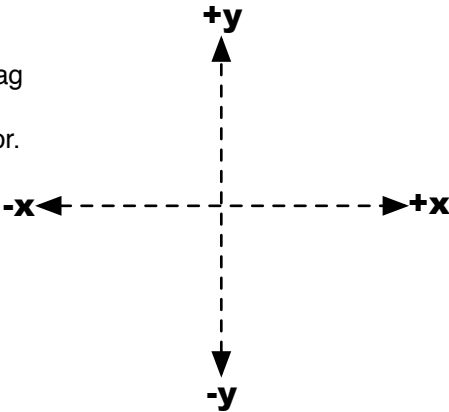


Speed at t = 0	Speed at t = 1 s	Speed at t = 2 s	Speed at t = 3 s	Speed at t = 4 s
0 m/s				



The 0.5 kg ball is thrown downward with an initial speed of 3 m/s downward. It experiences 1 N of drag opposing its motion.

- a) Calculate its speed change factor.
- b) Fill in the table below.



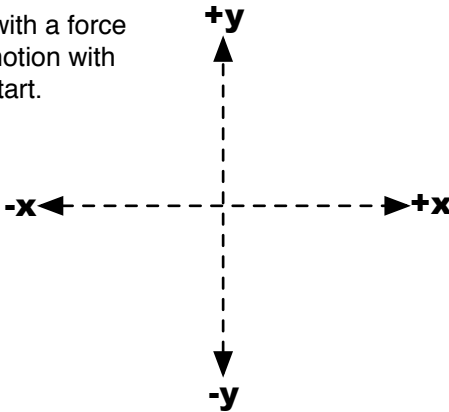
Speed at t = 0	Speed at t = 1 s	Speed at t = 2 s	Speed at t = 3 s	Speed at t = 4 s
-3 m/s				

Cycle 2 Forces

Speed Change with Net Force B

The 1,000 kg car’s engine pushes forward with a force of 4,000 N. Drag from the air opposes its motion with a force of 1,000 N. The car was at rest to start.

- a) Calculate its speed change factor.
- b) Fill in the table below.

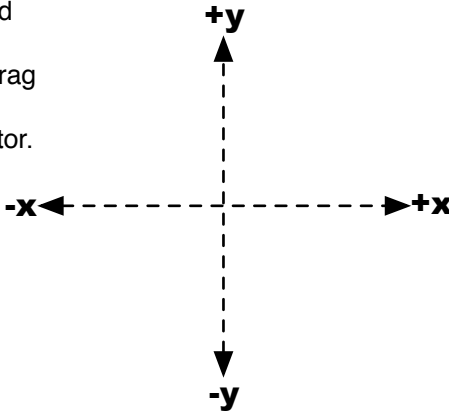


Speed at t = 0	Speed at t = 1 s	Speed at t = 2 s	Speed at t = 3 s	Speed at t = 4 s
0 m/s				



The 0.4 kg ball is thrown downward with an initial speed of 1 m/s downward. It experiences 2 N of drag opposing its motion.

- a) Calculate its speed change factor.
- b) Fill in the table below.



Speed at t = 0	Speed at t = 1 s	Speed at t = 2 s	Speed at t = 3 s	Speed at t = 4 s
-1 m/s				