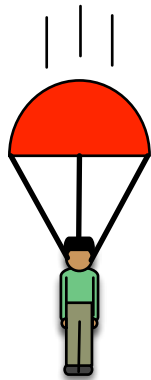
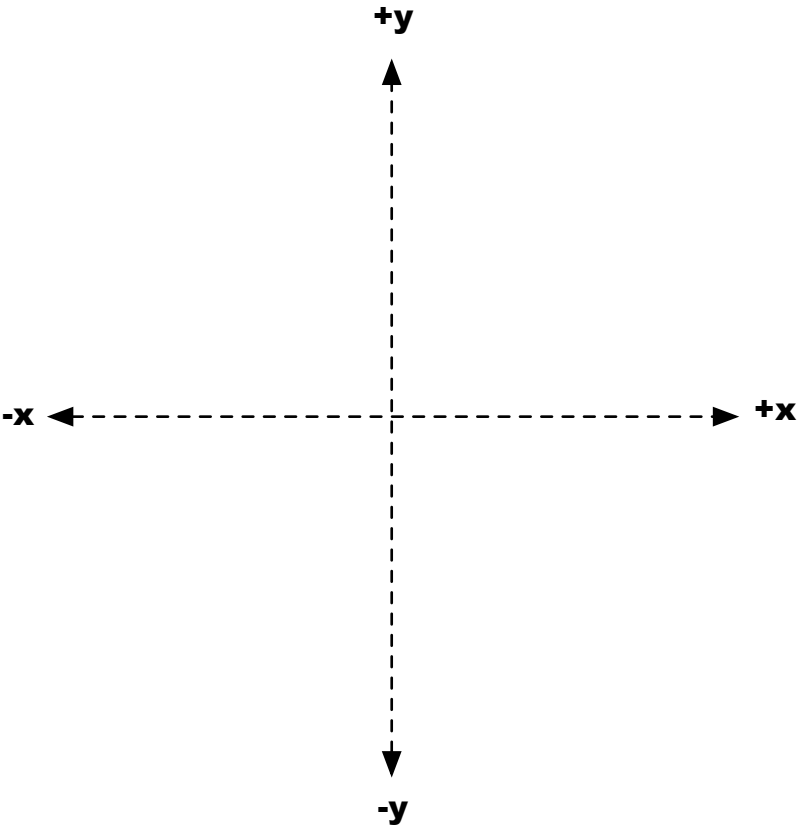


Cycle 10: 2nd Law

Review



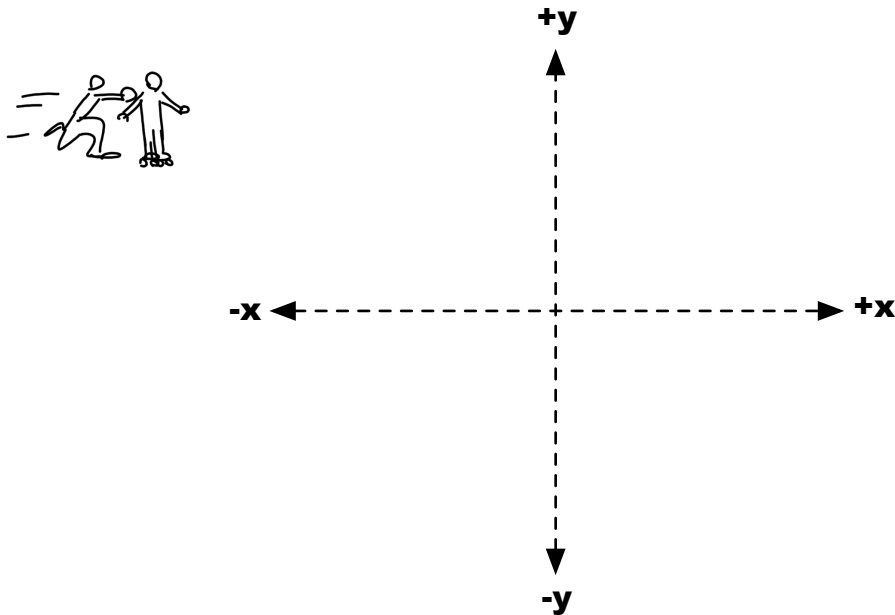
1. The skydiver (mass 60 kg) experiences 720 N of Drag. The skydiver is initially falling with a speed of 20 m/s
- a) Put the forces on the diagram & find the net force.
 - b) Calculate the acceleration.
 - c) Fill in the table below.
 - d) What is the physics inaccuracy in this problem?



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

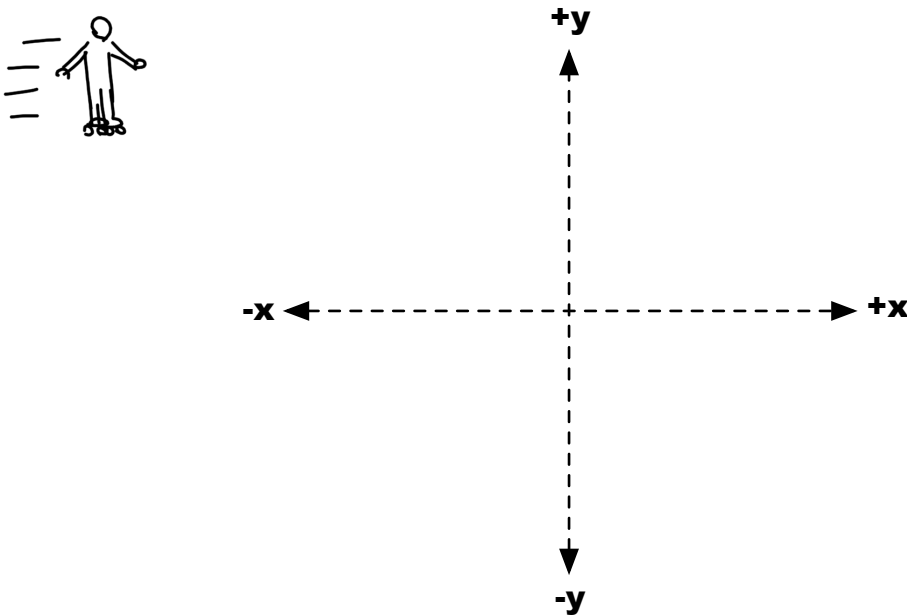
Dino pushes 50 kg Gina on an old pair of roller skates with a force of 100 N. There is 25 N of friction due to the squeaky old wheels of the skates. They start from a speed of 1 m/s.

- a) Put the forces on the diagram & find the net force.
- b) Calculate the speed change factor.
- c) Fill in the table below up to 3 s.



Then after $t = 3$ s, Dino stops pushing, and Gina continues with only the friction force in the x-direction.

- a) Put the forces on the diagram & find the net force.
- b) Calculate the speed change factor.
- c) Fill in the rest of the table.



Speed at t = 0	Speed at t = 1 s	Speed at t = 2 s	Speed at t = 3 s	Speed at t = 4 s	Speed at t = 5 s	Speed at t = 6 s	Speed at t = 7 s