Week 21 2D Motion

Day 3, Part 1: Boat and current

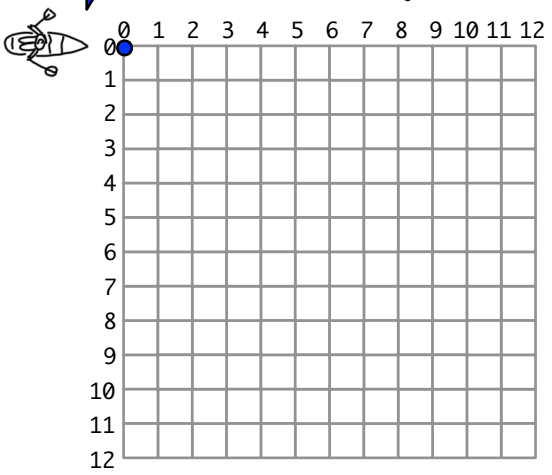
Name: _____

In each case, mark where the boat would be after 1 sec, 2 sec, and 3 sec, and then draw a line to show the path

SITUATION 1

rowing speed = 2 m/s

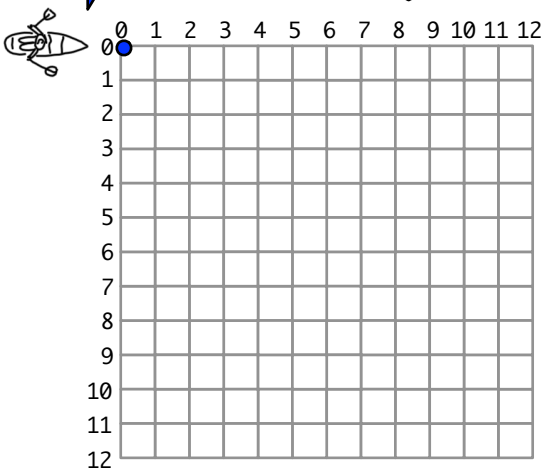
current speed = 3 m/s



SITUATION 2

rowing speed = 4 m/s

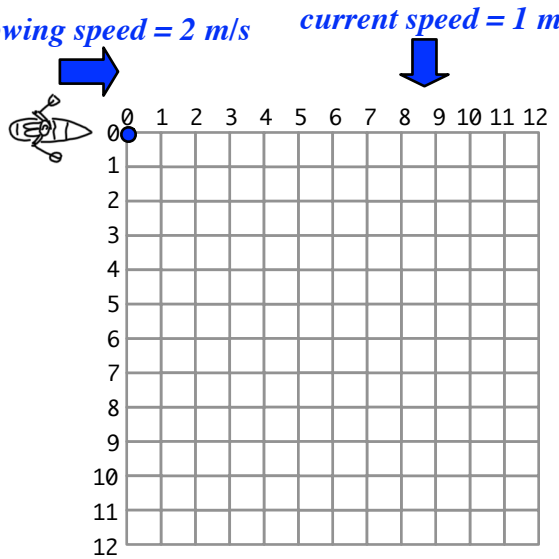
current speed = 2 m/s



SITUATION 3

rowing speed = 2 m/s

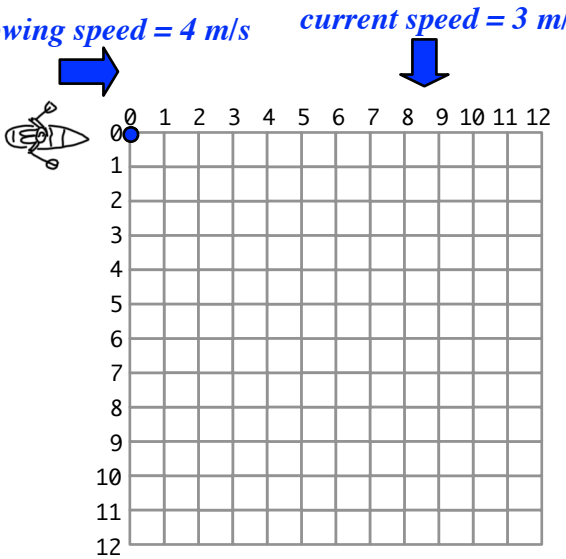
current speed = 1 m/s



SITUATION 4

rowing speed = 4 m/s

current speed = 3 m/s



Part 2: Independence of X and Y

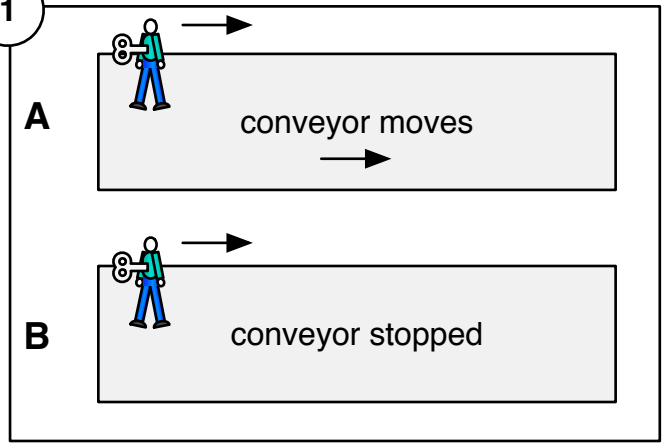
1. Go back and estimate how many seconds it would take to cover 12 meters across.

2. Take a close look at each of the situations in part 1. Did the change in current cause the boat to take any more or less time to get across? Why/ why not?

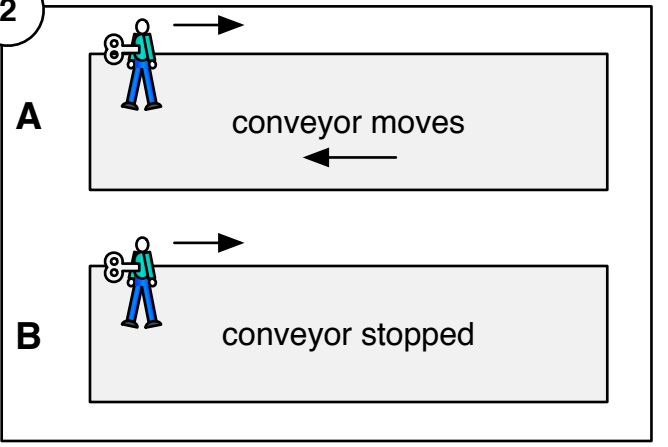
Part 3: Independence of x and y

Assume that both wind-up toys move at the same speed. In each case, which one gets to the right side first?

1

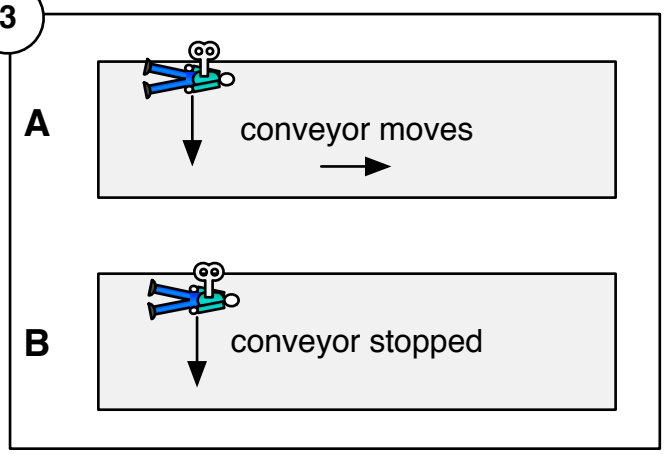


2

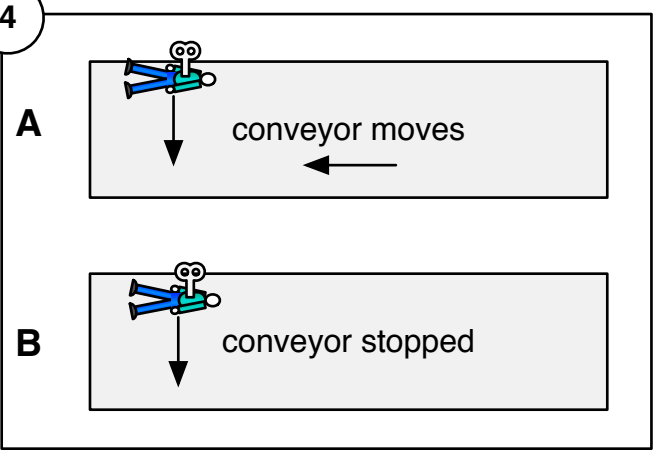


Assume that both wind-up toys move at the same speed. In each case, which one gets to the bottom first?

3

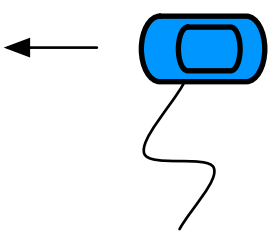


4



5

Which way would you pull on the string attached to the car to make it turn without changing its speed?



6

One ball rolls off the table horizontally while at the same time another ball is dropped from the same height. Which one hits the ground first?