

1. READING:

Styer, *The Strange World of Quantum Mechanics*
Chapters 1 - 5

2. QUESTIONS: DUE WEDNESDAY NOVEMBER 5, AT 5 PM

- Styer: Questions 2.1 - 2.6, 3.1, 3.2, and 4.1 - 4.7 (Note the bit on page 10 about the solutions.)
- Spaceships, of proper length 120 m, captained by Morris and Evans pass each other moving in opposite directions. According to Cap. Morris' clocks, the bow (or front end) of Cap. Evans' ship takes 8×10^{-7} s to pass Cap. Morris' spaceship.
 - a. What is the relative velocity of the spaceships?
 - b. At this stage, I found it useful to make a sketch of the story. Please sketch space time diagrams of the story in both frames, including bow and stern world lines for each ship.
 - c. According to clocks on Evans' ship, how long will the bow of Morris's ship take to pass?
 - d. According to clocks on Evans' ship, what is the interval of time between the event when the bow of Morris's ship passes the bow of Evans' ship and the event when stern of Morris's ship passes the bow of Evans' ship? Why is this a different time than in part 2?
 - e. Please label your diagrams with the times you computed.