**QUESTIONS TO HAND IN – EXPERIMENT 12**

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**LAB INSTRUCTOR\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_LAB DAY/TIME\_\_\_\_\_\_\_\_\_\_ \_ \_\_**

**1.** If two particles of equal mass approach each other in opposite directions at the same speed, what is the total momentum of the system before they collide?

**2.** In the example above in question 1, what is the total momentum of the system after they collide?

**3.** Consider two particles of 100 g each that are about to collide, with the first one traveling at 10 m/s toward the North and the second one traveling at the same speed to the East. What is the total momentum of the system before they collide?

**4.** In the example above in question 3, what is the total momentum of the system after they collide?

**5.** If the two particles enter into a completely inelastic collision, what is the final velocity of the resulting composite particle?