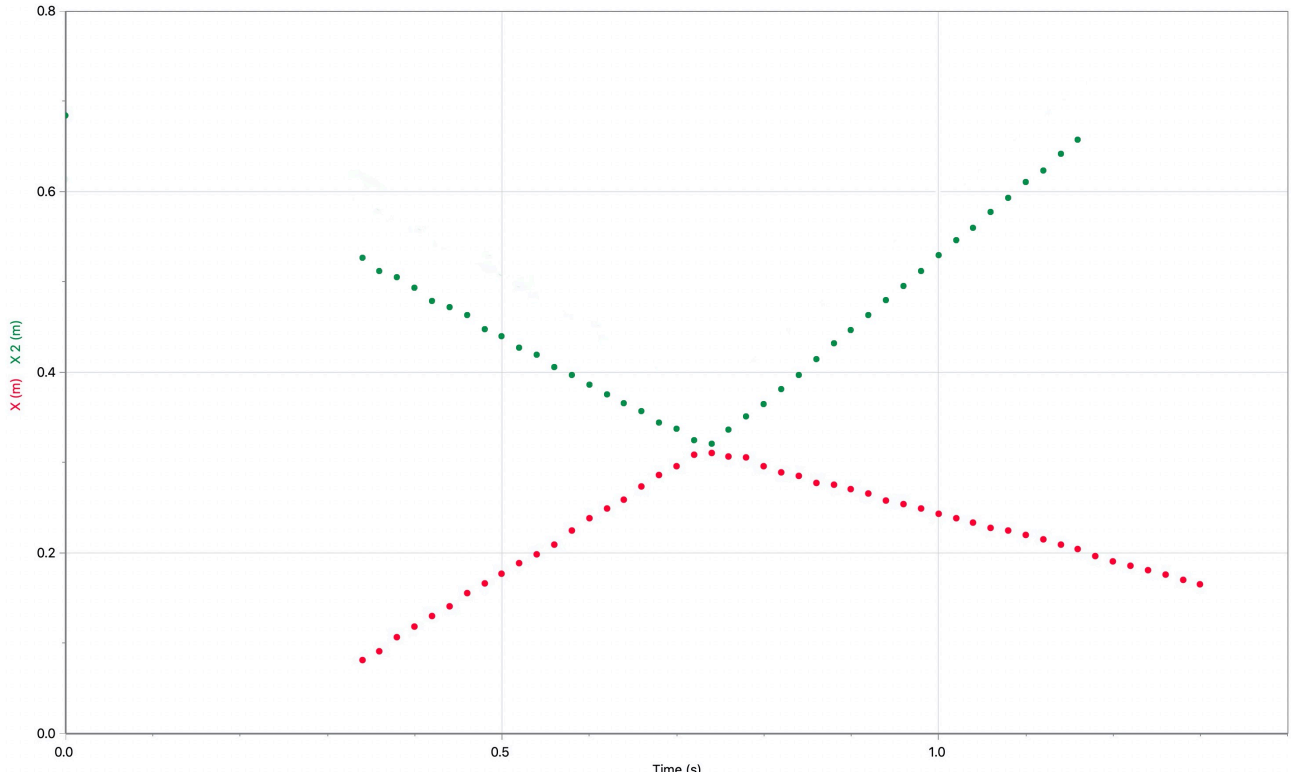
Motion analysis

Name:_____



Examine the graph above.
It represents a linear collision between two carts, one red, which has a mass of 200g, the other green.
You will need to use your ruler for any measurements.

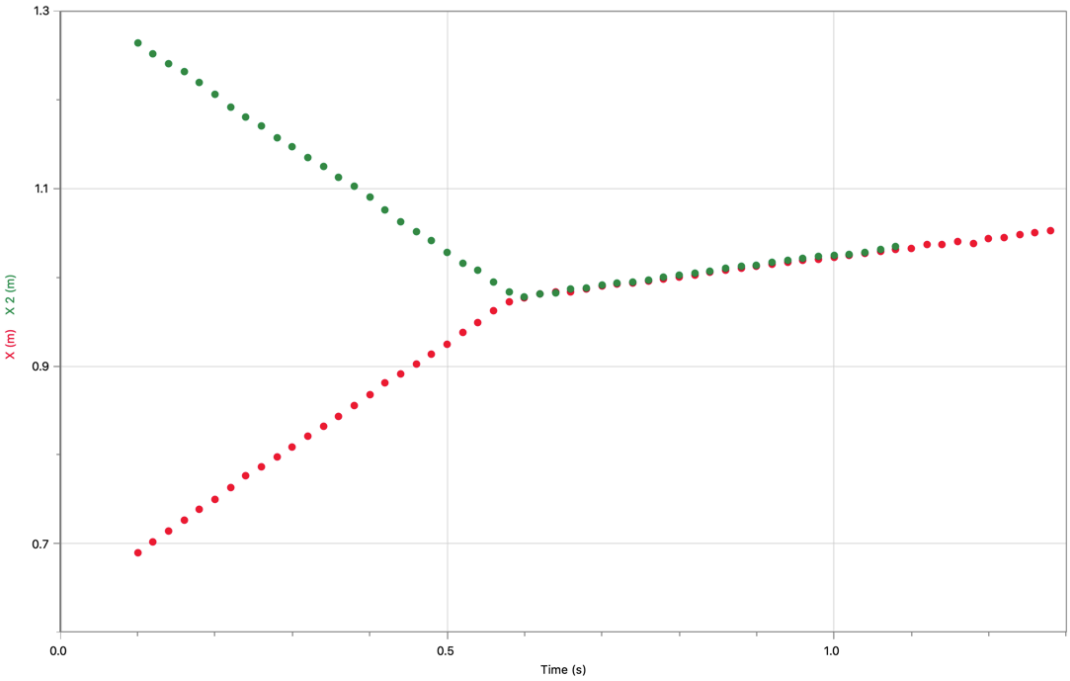
1. At what time does the collision occur?
2. What is true, in terms of their motion, for all stages of motion for both carts?
3. Determine the velocity of the green car before the collision.
4. Determine the force each cart experiences if the time of the collision is 0.05s.
5. Determine the mass of the green cart
6. Is this collision elastic or inelastic? Support your answer with calculations

Ans

1.
2.
3. -0.53 m/s
4. 5.36 N
5. 0.318kg or 318g
6 Ki = 0.0836 J , Kf = 0.0755 J,

Motion analysis

Name:_____



Examine the graph above.
It represents a linear collision between two carts, one red, which now has a mass of 250g, the other is one green. You will need to use your ruler for any measurements

7. Determine the velocity of the green car before the collision.
8. Determine the force each cart experiences if the time of the collision is 0.05s
9. What is the mass of the green cart?
10. Is this collision elastic or inelastic. Support your answer with calculations.
11. Draw a velocity time graph for the collision above