

Trial #3 – A constant force of _____ was used

Time (s)												
Distance (m)												

Trial #4 – A constant force of _____ was used and the cart contained _____ people

Time (s)												
Distance (m)												

Trial #5 – A constant force of _____ was used and the cart contained _____ people

Time (s)												
Distance (m)												

Mathematical Analysis:

1. Prepare distance-time graphs for all trials.
2. Use **average velocity = (d₂ - d₁) / Δtime** to obtain values for average velocity for each of the trials. Show 2 sample calculations. Record your results on the table below. (NOTE: You may use the instantaneous velocities method if you prefer (drawing tangent lines and determining their slopes))
3. Prepare a velocity-time graph for all trials, using the midpoint of the time interval to graph the average velocity (I'll clarify/demonstrate this)
4. Determine the slope of the VT graph. Show your calculations. What does the slope of a VT graph represent?
5. Describe the pattern of the markers along the ground after each trial. What does the pattern of markers indicate about the nature of the motion of the skateboarder?
6. What happens to the riders speed during the pushing? How do you know?
7. What happens to the rider's speed when the pushing stopped?
8. Describe 2 sources of experimental error. How could these error sources be eliminated/corrected?

Conclusion:

Answer the question posed at the beginning of the experiment.