

Challenge Lab: Vectors

Purpose: To predict the time it will take a toy car to cross two parallel lines when it travels at a given angle relative to those lines.

Procedure:

1. Get a toy car and using any method or equipment you wish, determine the speed of your car. Briefly explain what you did, give your data, show any calculations and give your results
2. When you are satisfied that you have accurately determined the speeds of the cars, tell your teacher. You will then be told (if not already) the distance between the lines and the angle for your car.
3. Calculate how long it will take for your car to go from one line to the next.
4. When called up by your teacher, put the car on the starting line at the given angle. On the countdown, start the car and your teacher will time how long it takes to reach the opposite line. Your grade is based on how close you got to the actual time.

Method/Data/Calculations:

Speed of Car = _____ m / s

Calculations:

Angle of Car's Velocity = _____

Distance Between Lines = _____ m

Calculated Crossing Time = _____ s

Actual Crossing Time = _____ s