

INTRODUCTION TO MOTION PRACTICE

INSTRUCTIONS: The following problems deal with average speed, displacement, and time. For each problem, list the given variables WITH UNITS and write out the equation in variable form BEFORE substituting in the values. Be sure to box in your final answer with the proper units!

1. Roger Bannister was the first person to run the mile in less than 4 minutes. In 1954, he accomplished this feat in a time of 3.00 minutes and 59.4 seconds. Compute his average speed in mi/hr and m/s .
2. The 1980 speed record for human-powered vehicles was set on a measured 200.0m track by a sleek machine called Vector. Pedaling back-to-back, its two drivers averaged 62.92 mi/hr . This awkward mix of units is the way the data appeared in an article recording the event. Convert the speed to m/s and determine how long the record run lasted.
3. A 660 km cross-country automobile race is won by a team of two drivers, each of whom had the wheel for half of the distance of the trip. If one averaged $60. \text{ km/hr}$ and the other $20. \text{ km/hr}$, what was their overall average speed?
4. Florence Griffith-Joyner holds the women's world record for the 100.0 m sprint with an average speed of 34.3 km/hr . How long did she take to complete this sprint (in seconds)?