

2-2 The average velocity is defined as the displacement vector divided by the elapsed time $\mathbf{v}_{av} = \Delta\mathbf{r}/\Delta t$. The elapsed time is given by the (distance covered)/speed: $\Delta t = \pi r/v$. The displacement vector is 1 mi to the West. Thus the average velocity = $(1 \text{ mi})/[\pi \times (0.5 \text{ mi})/(45 \text{ mi/h})]$ in the West direction = 29 mi/h West. The correct answer is (B).