p. 33
1.
3.

4.

Runner 2

Runner 1


p. 37
5.

Here $-1+1$ There
6.

$$
\text { Home } \rightarrow \rightarrow \rightarrow \rightarrow \rightarrow \text { school }
$$

8. The two students should agree on the displacement, distance, and time intervalfor the trip, because these three quantities are independent of where the origin of the coordinate system is placed. The two students would not agree on the car's position, because the position is measured from the origin of the coordinate system to the location of the car.
p. 52
9. A motion diagram gives you a picture of motion that helps you visualize displacement and velocity.
10. Position and displacement are different from distance because position and displacement both contain information about the direction in which an object has moved, while distance does not. Distance and displacement are different from position because they describe how an object's location has changed during a time interval, where position tells exactly where an object is located at a precise time.
11. Read the clock at the beginning and end of the interval and subtract the beginning time from the ending time.
