

1D Motion Side-by-Side! (A)

1. You walk forward for 12m, turn right and walk 7m, then walk backwards 5m. What was your distance travelled?
2. Marcus just got his license, so he decides to take his car for a leisurely drive. He leaves his driveway and drives 2 km west, 6 km south, 2 km east, and 6km north to return to his driveway. What was Marcus' total displacement?
3. Freddie the frog moves 15 cm per hop. He takes 3 hops right, 2 hops back, 2 hops forward, and 1 hop right. How much ground has Freddie covered?
4. Your favorite rollercoaster ride starts 90m above the ground. The first drop lowers you 70m. The loop-de-loop shoots you 30m up and brings you back down 30m. Then you rise back up 20m and drop 10m. What was your total (vertical) displacement?
5. Usain Bolt ran 200m in 20.61s. What was his average speed?
6. Liz participated in her first triathlon. She swam 2.4 mi in 0.5 hr, biked 112 mi in 6 hr, and ran 26.2 mi in 5.5 hr. What was her average speed for the entire triathlon?
7. A soccer player runs west 15m toward his team's goal in 10s. The ball changes direction, so he immediately turns around and runs 25m east in 12s. What was his average velocity?
8. Georgina walks an average of 3 m/s. How long does it take her to walk 210 m?

1D Motion Side-by-Side! (B)

1. You walk forward for 5m, backwards 16m, the turn and walk to the left 3m. What was your distance travelled?
2. The giant drop starts at ground level, rises 61m into the air, drops you 50m, brings you back up 50m, then drops you back down to ground level. What is your total displacement?
3. Mr. Toad moves 10 cm per jump. He jumps to the left 2 times, to the right 5 times, forward 2 times, and to the left again 3 times. How much ground has Mr. Toad covered?
4. The Blue Angels show off their flying skills at the Chicago Air and Water show. Starting from 200m in the air, they dive down 100m, then soar 300m back up. They then spiral down in unison 160m. What was their (vertical) displacement for this part of the show?
5. My grandmother is an avid snowboarder. She races down a 300m slope in 30.93s. What is her average speed?
6. Erika drove 5 mi in 0.2 hr. Then she hit heavy traffic and it took her 0.4 hr to go 2 mi. What was her average speed?
7. A chipmunk is looking for the food he hid last week. It runs east for 10s, going 11m. Then it immediately runs 5m back west in 3s. He still hasn't found his food. What was his average velocity?
8. Takeru Kobayashi can eat 103 hotdogs in 600s. How long would it take him to eat 12 hotdogs?