

Module 01 - Lesson 2

Position and Displacement

Question 1: Jane is standing 512 m South of the corner of Yonge-Dundas. She then walks North-East for 50 m to reach Dundas Square. If we select the positive x-axis to be directed East and the positive y-axis to be directed North, write the position vectors for Jane's initial and final positions using the ordered-pair notation.

Question 2: A car travelling through a parking lot moves from point $A = (2 \text{ m}, -3 \text{ m})$ to point $B = (5 \text{ m}, 1 \text{ m})$. Calculate the magnitude of the displacement of the car.

Problem: Starting from home, ride your bicycle 14 km North in 2.0 h and then turn around and pedal straight home in 1.5 h. What are your (a) displacement at the end of the first 2.0 h, (b) displacement for the entire trip.