

## Chapter 1 Units, Physical Quantities and Vectors

### Example 1:

A child walks 60.0 m South and then 45.0 m East. What is her displacement from her starting point?

### Example 2:

A jet has a velocity of 415 mph,  $30.0^\circ$  W of N; what are the x and y components of the velocity?

### Example 3:

Vector "A" has a magnitude of 8.25 m and makes an angle of  $42.1^\circ$  above the positive x axis.

Vector "B" has a magnitude of 6.14 m and makes an angle of  $67.3^\circ$  above the negative x axis. Find "A" + "B" and "A" - "B".

### Example 4:

A car travels 60.0 miles at  $53.0^\circ$  S of W. The car then makes a  $90.0^\circ$  turn to the left and travels an additional 100 miles. What is the car's final displacement?

### Example 5:

A golfer takes two putts to sink the ball, one is 42.6 ft,  $31.7^\circ$  N of E and the other is 2.20 ft,  $53.4^\circ$  W of N. What is the displacement of the single putt that would sink the ball on the first try? (Assuming a level green!)