

- 
1. Quiz
2. Adding Vectors - Graphically and Algebraically (3 Methods)
3. Understanding Concepts: Page 423, #3, 5 and 6
4. Activity: Adding Displacement Vectors - Page 424
5. Communicating Direction
6. Explore an Issue - Athletes on the Edge

$$\vec{\Delta d} = \vec{d}_2 - \vec{d}_1$$

Quiz  $\rightarrow$  Tuesday Nov. 6/12

#1.  $\rightarrow$  Use a map to determine  $d_1$ ,  $d_2$  and  $\Delta d$  (100 acre wood)

#2.  $\rightarrow$  Draw a vector diagram to scale. (p. 416 #8)

<http://www.rcdb.com/>



### Understanding Concepts

e 4 2 3

1. What is the rule for adding vectors in a vector diagram?
2. What is the rule for drawing the resultant vector in a vector diagram?
3. A soccer player leaves the bench and runs 25 m [N] and then 40 m [S]. Use a scale vector diagram to find the resultant displacement. Show the full problem-solving approach.
4. What is the rule for adding vectors algebraically?
5. An actor walks 5 m stage right (east in this case) and then 15 m stage left.
  - (a) Find the resultant displacement algebraically.
  - (b) Draw a scale vector diagram to find the resultant displacement.
  - (c) Compare your answers and account for any differences.
6. A shopper walks 35 m west, another 17 m west, and then 67 m east. Show the full problem-solving approach for finding the resultant displacement by the combined method.
7. On a paper delivery route, Julia walks from home three blocks north to collect her newspapers, walks back eight blocks south while delivering the papers, and then returns home. State Julia's resultant displacement and position (including the reference point).

8. Prepare a table to list the three problem-solving methods used in this section and the advantages and disadvantages of each method.

### Making Connections

9. Draw a scale vector diagram of a segment of a one-dimensional journey in your daily life. Use paces for your distances. Determine the resultant displacement from the diagram and then test your answer by pacing it out. How close is the "paced" value to your calculated resultant value?

### Exploring

10. If you start in a corner and walk around the perimeter of a football field (assume 100 m by 40 m), what is your displacement when you are halfway around?
  - (a) Draw a scale vector diagram to determine your resultant displacement.
  - (b) Suggest another new method, not mentioned in this section, that might be used for solving this problem.

### Reflecting

11. Why do you think the scale diagram method was introduced here, even though it is more time consuming?