

32. Given $\mathbf{u} = 3\mathbf{i} - 4\mathbf{j}$ and $\mathbf{v} = -2\mathbf{i} + 3\mathbf{j}$, calculate $\mathbf{u} \cdot \mathbf{v}$.

33. Given $\mathbf{u} = -\mathbf{i} - \mathbf{j}$ and $\mathbf{v} = \mathbf{i} + 5\mathbf{j}$, calculate $\mathbf{u} \cdot \mathbf{v}$.

34. Given $\mathbf{u} = \langle -2, 4 \rangle$ and $\mathbf{v} = \langle -3, 1 \rangle$, calculate $\mathbf{u} \cdot \mathbf{v}$.

35. Given $\mathbf{u} = \langle -1, 6 \rangle$ and $\mathbf{v} = \langle 6, -1 \rangle$, calculate $\mathbf{u} \cdot \mathbf{v}$.

61. A woman leaves home and walks 3 miles west, then 2 miles southwest. How far from home is she, and in what direction must she walk to head directly home?

62. A boat leaves the marina and sails 6 miles north, then 2 miles northeast. How far from the marina is the boat, and in what direction must it sail to head directly back to the marina?

63. A man starts walking from home and walks 4 miles east, 2 miles southeast, 5 miles south, 4 miles southwest, and 2 miles east. How far has he walked? If he walked straight home, how far would he have to walk?