

1. Add the following two vectors
 - a. Magnitude of 4 and directed East
 - b. Magnitude of 6 and directed 30 degrees North of East



2. Vector A is directed 25 degrees North of West. Vector B is directed 55 degrees North of East. It is known that the horizontal components of each vector are equal in magnitude, but opposite in direction. It is also known that when the vertical components of each vector are added together, they equal a total value of 10. Find the magnitude of Vector A and Vector B.

3. Add the following two vectors:

Vector A: $\langle -4i - 2j \rangle$

Vector B: $\langle 6i + 8j \rangle$