8-5

Practice

Applications with Vectors

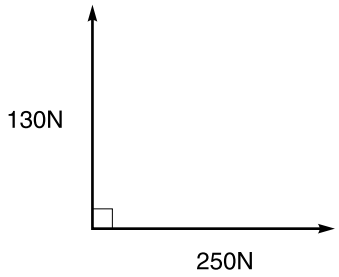
Make a sketch to show the given vectors.

1. a force of 97 newtons acting on an object while a force of 38 newtons acts on the same object at an angle of 70° with the first force

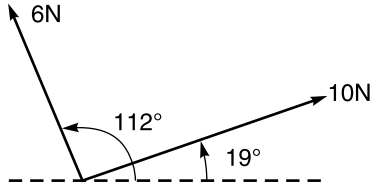
2. a force of 85 pounds due north and a force of 100 pounds due west acting on the same object

Find the magnitude and direction of the resultant vector for each diagram.

3.



4.



5. What would be the force required to push a 200-pound object up a ramp inclined at 30° with the ground?

6. Nadia is pulling a tarp along level ground with a force of 25 pounds directed along the tarp. If the tarp makes an angle of 50° with the ground, find the horizontal and vertical components of the force.

7. ***Aviation*** A pilot flies a plane east for 200 kilometers, then 60° south of east for 80 kilometers. Find the plane's distance and direction from the starting point.