Three forces are acting on an object that is at rest. Two of those forces are given by the vector expressions \( \mathbf{F}_1 = 70 \, \mathbf{i} + 20 \, \mathbf{j} \) and \( \mathbf{F}_2 = -30 \, \mathbf{i} + 40 \, \mathbf{j} \) as shown in the figure above. Find the direction and magnitude of the third force.