

$$\Sigma x = 500 \cos 20^\circ + 400 \cos 25^\circ - 250 \cos 35^\circ + 300 \cos 23^\circ = 11.95$$

$$\Sigma y = 500 \sin 20^\circ + 400 \sin 25^\circ - 250 \sin 35^\circ - 300 \sin 23^\circ = 83.44$$

$$R = \sqrt{\Sigma x^2 + \Sigma y^2} = \sqrt{11.95^2 + 83.44^2} = 84.20$$

$$\theta = \tan^{-1} \left(\frac{\Sigma y}{\Sigma x} \right) = \tan^{-1} \left(\frac{83.44}{11.95} \right) = \theta = 7.43$$

