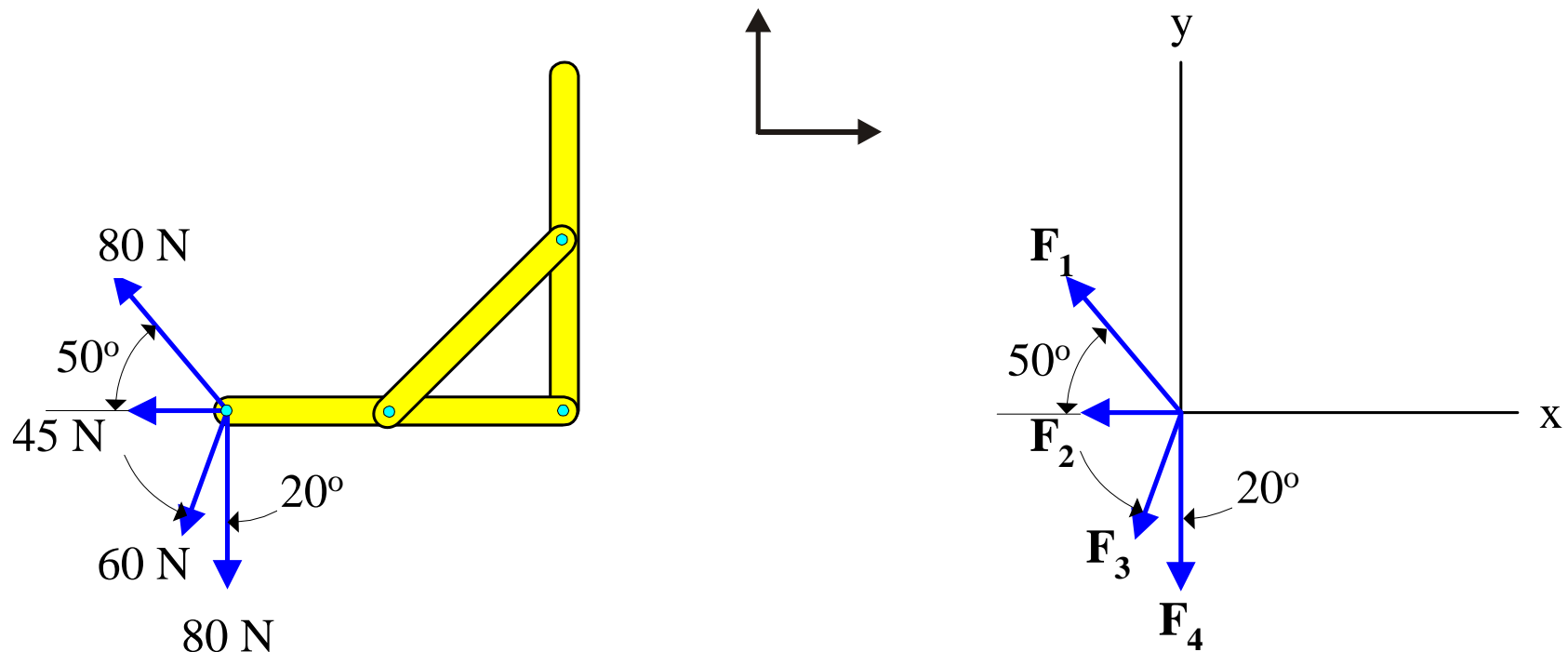


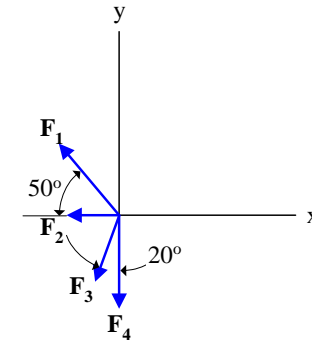
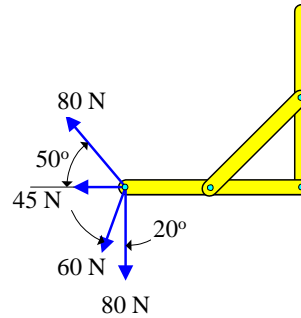
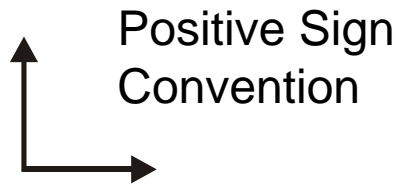
Example 2.6

Resultant Force by Summing
Rectangular Components
(Tabular Form)

Example 2.6:

Four forces act on a bracket as shown in the figure. Resolve the four forces into their rectangular components and determine the magnitude of the resultant of the four forces.



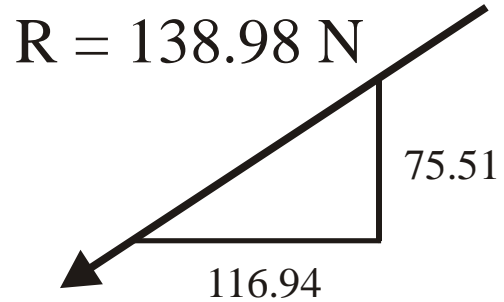


Force	Magnitude (N)	x – component (N)	y – component (N)
F_1	80	-51.42	+61.28
F_2	45	-45	0
F_3	60	-20.52	-56.38
F_4	80	0	-80
Components of resultant, $R \rightarrow$		$\Sigma = -116.94 \text{ N}$	$\Sigma = -75.51 \text{ N}$

RESULTS

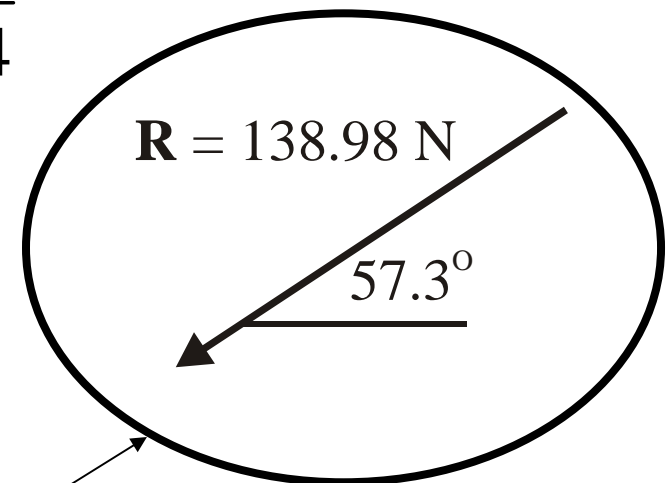
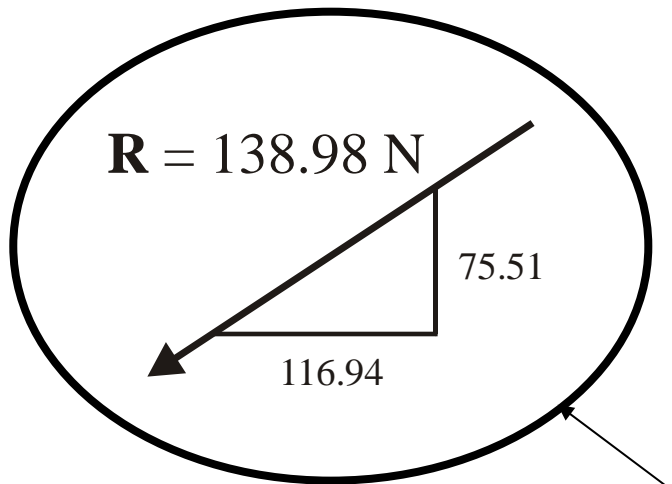
$$R^2 = \sqrt{(-116.94)^2 + (-75.1)^2}$$

$$R = 138.98 \text{ N}$$



$$\tan \theta = \frac{75.1}{116.94}$$

$$\theta = 57.3^\circ$$



Show Resultant, R
either way