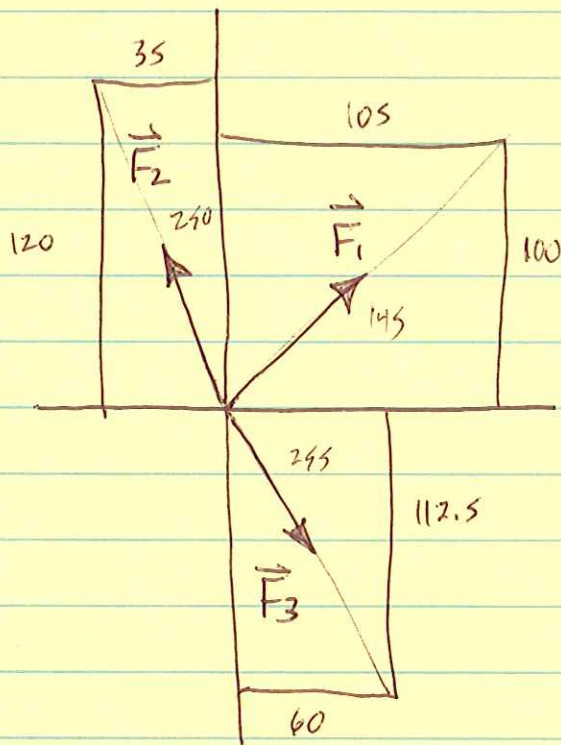PROB. 2.24

$$\theta_1 = TAN^{-1}\left(\frac{100}{105}\right) = 43.6°$$

$$\phi_2 = TAN^{-1}\left(\frac{120}{35}\right) = 73.7°$$

$$\theta_2 = 180 - 73.7 = 106.3°$$

$$\phi_3 = TAN^{-1}\left(\frac{112.5}{60}\right) = 61.9°$$

$$\theta_3 = 360 - 61.9° = 298.1°$$

$$\vec{F_1} = (145 \cos 43.6)\hat{i} + (145 \cdot \sin 43.6)\hat{j}$$

$$\vec{F_1} = (105)\hat{i} + (100)\hat{j} \; N$$

$$\vec{F_2} = (250 \cos 106.3)\hat{i} + (250 \sin 106.3)\hat{j}$$

$$\vec{F_2} = (-70.2)\hat{i} + (240)\hat{j} \; N$$

$$\vec{F_3} = (255 \cos 298.1°)\hat{i} + (255 \sin 298.1°)\hat{j}$$

$$\vec{F_3} = (120)\hat{i} + (-225)\hat{j} \; N$$