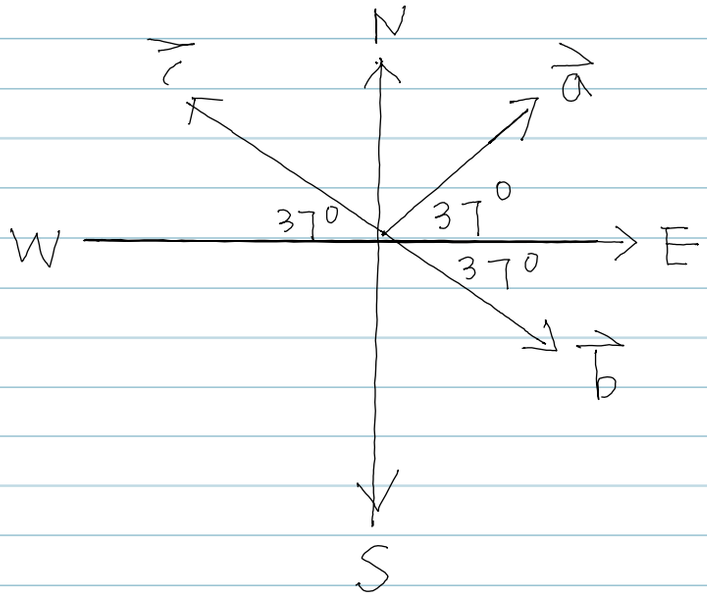
設 $|\vec{a}| = 100\,m$ 方向為東偏北 37^0

$|\vec{b}| = 100\,m$ 方向為東偏南 37^0

$|\vec{c}| = 100\,m$ 方向為西偏北 37^0

求 $\vec{a} + \vec{b} - \vec{c}$



$$\vec{a} = 100 \times \cos 37^0 \vec{i} + 100 \times \sin 37^0 \vec{j}$$

$$= 80\,(m)\,\vec{i} + 60\,(m)\,\vec{j}$$

$$\vec{b} = 100 \times \cos 37^0 \vec{i} - 100 \times \sin 37^0 \vec{j}$$

$$= 80\,(m)\,\vec{i} - 60\,(m)\,\vec{j}$$

$$\vec{c} = -100 \times \cos 37^0 \vec{i} + 100 \times \sin 37^0 \vec{j}$$

$$= -80\,(m)\,\vec{i} + 60\,(m)\,\vec{j}$$

$$\vec{a} + \vec{b} - \vec{c} = 240\,(m)\,\vec{i} - 60\,(m)\,\vec{j}$$

$$|\vec{a} + \vec{b} - \vec{c}| = \sqrt{(240)^2 + (60)^2} = 247.4\,(m)$$

$$\theta = \tan^{-1}\frac{60}{240} = 14^0 \quad (\text{東偏南})$$