

3.27. Visualize: Refer to Figure P3.27.

Solve: From the rules of trigonometry, we have $A_x = 4\cos 40^\circ = 3.1$ and $A_y = 4\sin 40^\circ = 2.6$. Also,

$B_x = -2\cos 10^\circ = -1.97$ and $B_y = +2\sin 10^\circ = 0.35$. Since $\vec{A} + \vec{B} + \vec{C} = \vec{0}$,

$$\vec{C} = -\vec{A} - \vec{B} = (-\vec{A}) + (-\vec{B}) = (-3.1\hat{i} - 2.6\hat{j}) + (+1.97\hat{i} - 0.35\hat{j}) = -1.1\hat{i} - 3.0\hat{j}.$$