Chapter 2 Problem 84 [†]

Given
$\vec{A} = -8.80\hat{i} + 15.00\hat{j}$
$\vec{B} = 13.20\hat{i} - 6.60\hat{j}$
$\vec{A} - \vec{B} + 3\vec{C} = 0$

Solution
Find the components of vector C.

Begin with the equation and solve for $\vec{C}$.

$$3\vec{C} = -\vec{A} + \vec{B}$$

$$\vec{C} = \frac{-\vec{A} + \vec{B}}{3} = \frac{-(-8.80\hat{i} + 15.00\hat{j}) + (13.20\hat{i} - 6.60\hat{j})}{3}$$

$$\vec{C} = \frac{8.80\hat{i} - 15.00\hat{j} + 13.20\hat{i} - 6.60\hat{j}}{3} = \frac{22.00\hat{i} - 21.60\hat{j}}{3} = 7.33\hat{i} - 7.20\hat{j}$$

[†]Problem from University Physics by Ling, Sanny and Moebs (OpenStax)