

# 1.2.3

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Question:

Find the sum of the vectors  $\mathbf{a} = \hat{i} - 2\hat{j} + \hat{k}$ ,  $\mathbf{b} = -2\hat{i} + 4\hat{j} + 5\hat{k}$ ,  $\mathbf{c} = \hat{i} - 6\hat{j} - 7\hat{k}$ .

**Solution:** Given:

Point	Vector
<b>a</b>	$\begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix}$
<b>b</b>	$\begin{pmatrix} -2 \\ 4 \\ 5 \end{pmatrix}$
<b>c</b>	$\begin{pmatrix} 1 \\ -6 \\ -7 \end{pmatrix}$

TABLE I: Given data

$$\mathbf{r} = (\mathbf{a} + \mathbf{b} + \mathbf{c}) \quad (1)$$

Substituting values,

$$\mathbf{r} = \begin{pmatrix} 0 \\ -4 \\ -1 \end{pmatrix} \quad (2)$$

