

10.

With respect to a fixed origin, the points A and B have position vectors $20\mathbf{i} + 18\mathbf{j} - 12\mathbf{k}$ and $12\mathbf{i} - 6\mathbf{j} + 20\mathbf{k}$, respectively.

The position vector of the point C has $\mathbf{i}$ -component equal to 4.

The distance of C from both A and B is 24 units.

Show that one of the two possible position vectors of C is $4\mathbf{i} + 10\mathbf{j} + 4\mathbf{k}$ and determine the other.