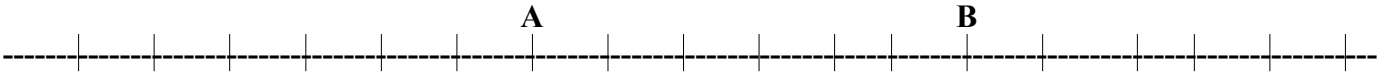
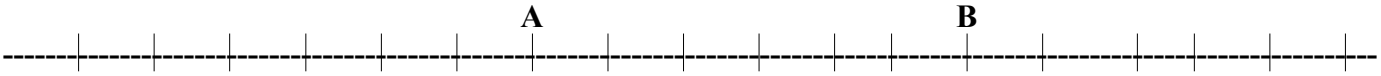
Problem I : on the line (AB) , such that AB = 6 units, find the number *x* such that $\overrightarrow{AM} = x\overrightarrow{AB}$ and **place the point M .**

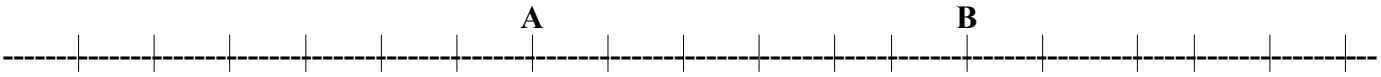
(1) $\overrightarrow{MA} + \overrightarrow{MB} = \vec{O}$



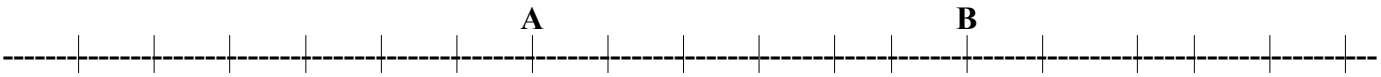
(2) $\overrightarrow{MA} + 2\overrightarrow{MB} = \vec{O}$



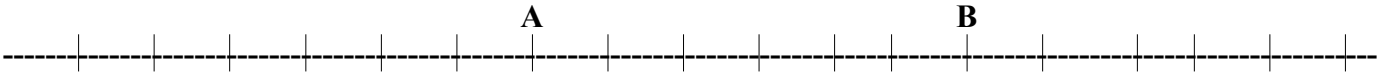
(3) $2\overrightarrow{MA} + \overrightarrow{MB} = \vec{O}$



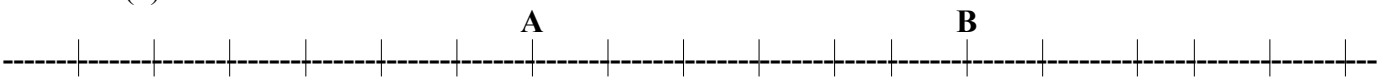
(4) $\overrightarrow{MA} + 3\overrightarrow{MB} = \vec{O}$



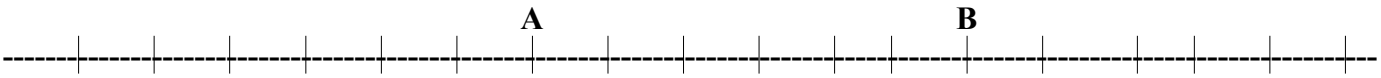
(5) $3\overrightarrow{MA} + \overrightarrow{MB} = \vec{O}$



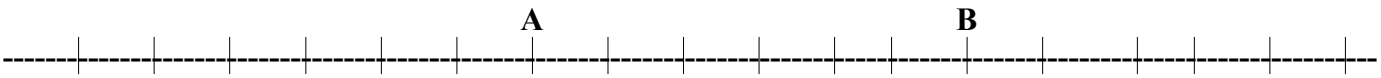
(6) $\overrightarrow{MA} - \overrightarrow{MB} = \vec{O}$



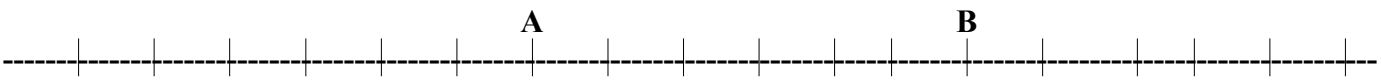
(7) $2\overrightarrow{MA} - \overrightarrow{MB} = \vec{O}$



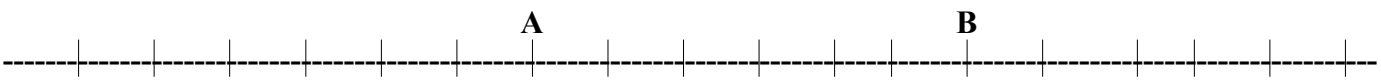
(8) $\overrightarrow{MA} - 3\overrightarrow{MB} = \vec{O}$



(9) $3\overrightarrow{MA} + 2\overrightarrow{MB} = \vec{O}$

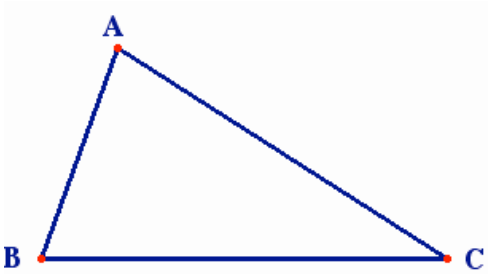


(10) $3\overrightarrow{MA} - 2\overrightarrow{MB} = \vec{O}$

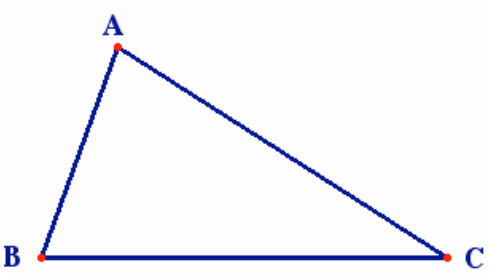


Problem II : in each triangle ABC, find the numbers *x* and *y* such that $\overrightarrow{AM} = x\overrightarrow{AB} + y\overrightarrow{AC}$ and then place the point M :

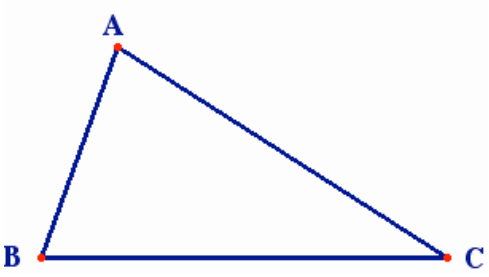
(1) $\overrightarrow{MA} + \overrightarrow{MB} + \overrightarrow{MC} = \vec{O}$



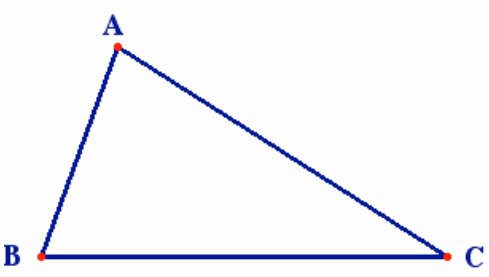
(2) $\overrightarrow{MA} + 2\overrightarrow{MB} + 3\overrightarrow{MC} = \vec{O}$



(3) $\overrightarrow{MA} - 3\overrightarrow{MB} + \overrightarrow{MC} = \vec{O}$



(4) $\overrightarrow{MA} - 2\overrightarrow{MB} - \overrightarrow{MC} = \vec{O}$



(5) $2\overrightarrow{MA} - \overrightarrow{MB} - \overrightarrow{MC} = \vec{O}$