EE2802: Assignment1

Nikam Pratik Balasaheb

1) Find the coordinates of the point which divides the line segment joining the points $\begin{pmatrix}-2\\3\\5\end{pmatrix}$ and $\begin{pmatrix}1\\-4\\6\end{pmatrix}$ in the ratio
   a) 2:3 internally
   b) 2:3 externally
2) Given that P=$\begin{pmatrix}3\\2\\-4\end{pmatrix}$, Q = $\begin{pmatrix}5\\4\\-6\end{pmatrix}$ and R = $\begin{pmatrix}9\\8\\-10\end{pmatrix}$ are collinear. Find the ratio in which Q divides PR.
3) Find the ratio in which the YZ-plane divides the line segment formed by joining the points $\begin{pmatrix}-2\\4\\7\end{pmatrix}$ and $\begin{pmatrix}3\\-5\\8\end{pmatrix}$.
4) Using section formula, show that the points A $\begin{pmatrix}2\\-3\\4\end{pmatrix}$, B $\begin{pmatrix}-1\\2\\1\end{pmatrix}$ and R $\begin{pmatrix}0\\\frac{1}{3}\\2\end{pmatrix}$ are collinear.
5) Find the coordinates of the points which trisect the line segment joining the points P $\begin{pmatrix}4\\2\\-6\end{pmatrix}$ and Q $\begin{pmatrix}10\\-16\\4\end{pmatrix}$.