Question 1

 Let b and d be distinct nonzero real numbers and c any real number .Prove that

 { b,c +di } is a basis of **C** over **R**.

Hint-For any r + si $\in $ **C,** r +si=$ (\frac{r}{b}-\frac{cs}{bd}$)*b +*$\frac{s}{d}(c+di)$*.*Hence{b,c + di} spans **C** over **R.** Prove that it is also linearly independent over **R**.

Question 2

If a+bi$ \in $**C** and b$\ne 0 $,prove that **C**= **R**(a +bi).

**C**-complex

**R**-reals