b) Find the vector which has magnitude 14 units and is parallel to $2i + j+3k$

c) If $2i - 4j + k$ and $i + xj + 2k$ are perpendicular vectors, find the value of x.

d) Two forces, PN and QN are inclined at an angle θ to each other. When $P = \sqrt{12}$ and $Q = 2$, the resultant has the same magnitude, RN, as the resultant in the case when $P = \sqrt{12}$ and $Q = 4$. Find the value of θ and of R.

Question Three