10 Relative to an origin O, the position vector of point P is $3\mathbf{i}-2\mathbf{j}$ and the position vector of point Q is $8\mathbf{i}+13\mathbf{j}$.

(a) The point R is such that $\overrightarrow{PQ}=5\overrightarrow{PR}$. Find the unit vector in the direction $\overrightarrow{OR}$. [5]

(b) The position vector of S relative to O is $\lambda\mathbf{j}$. Given that RS is parallel to PQ, find the value of λ. [3]

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