

3. The triangle PQR is such that $\vec{PQ} = 3\mathbf{i} + 5\mathbf{j}$ and $\vec{PR} = 13\mathbf{i} - 15\mathbf{j}$

(a) Find \vec{QR}

(2)

(b) Hence find $|\vec{QR}|$ giving your answer as a simplified surd.

(2)

The point S lies on the line segment QR so that $QS:SR = 3:2$

(c) Find \vec{PS}

(2)