

10. Given that

- $\overrightarrow{PQ} = 2\mathbf{i} + 8\mathbf{j} - 2\mathbf{k}$

- $\overrightarrow{QR} = 6\mathbf{i} + 6\mathbf{k}$

(a) find $\overrightarrow{PR}$.

(2)

(b) Hence show that triangle PQR is both right-angled and isosceles.

(4)