PQR is a triangle with vertices P$(0,-4)$, Q$(-6,2)$ and R$(10,6)$.
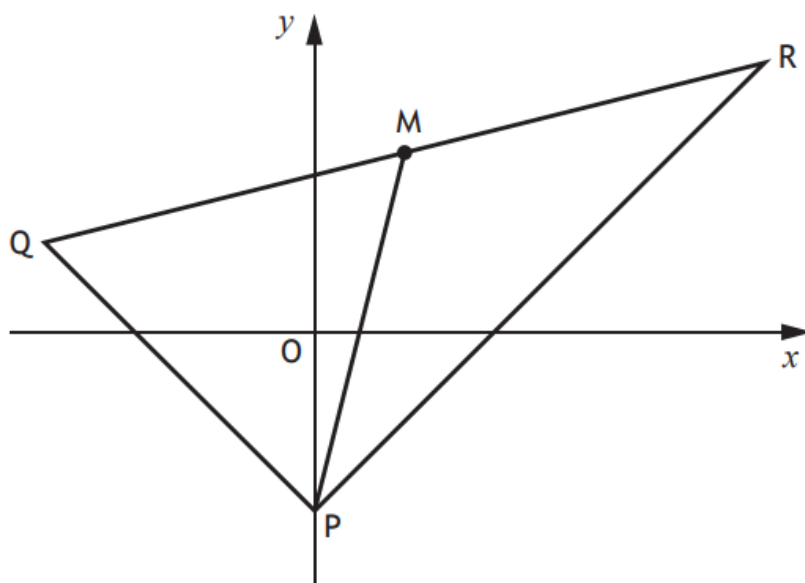
(a) (i) State the coordinates of M, the midpoint of QR.   **1**

     (ii) Hence find the equation of PM, the median through P.   **2**

(b) Find the equation of the line, L, passing through M and perpendicular to PR.   **3**

(c) Show that line L passes through the midpoint of PR.   **3**

Answers:

  (a) (i) $(2,4)$

       (ii) $y = 4x - 4$

  (b) $y = -x + 6$

  (c)   Proof. See marking instructions.