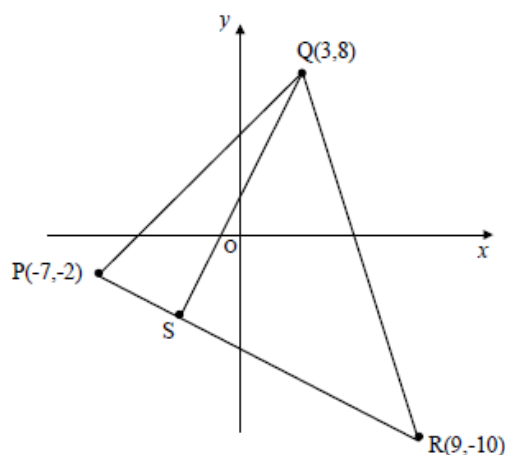


- Triangle ABC has vertices A(-3, -3), B(12, -1) and C(6, 11)  
Find the gradient of the **median** from B.
- Find the equation of the line through the point (3, -5) which is parallel to the line with equation  $3x + 2y - 5 = 0$ .
- Triangle PQR has as its vertices P(-7,-2), Q(3,8) and R(9,-10) as shown.



- Find the equation of side PR.
  - Find the equation of the **altitude** QS.
  - Hence find the coordinates of S, the point where the altitude QS meets side PR.
- A triangle ABC has vertices A(-3,-3), B(-1,1) and C(7,-3).  
Find the equation of the perpendicular bisector of the side BC.
  - The points A and B have coordinates  $(a, a^2)$  and  $(2b, 4b^2)$  respectively.  
Determine the gradient of the line AB in its simplest form.
  - The lines  $y = 2x + 4$  and  $x + y = 13$  make angles of  $a^\circ$  and  $b^\circ$  with the positive direction of the x-axis, as shown in the diagram.

- Find the values of a and b.
- Hence, find the acute angle between the two given lines.

