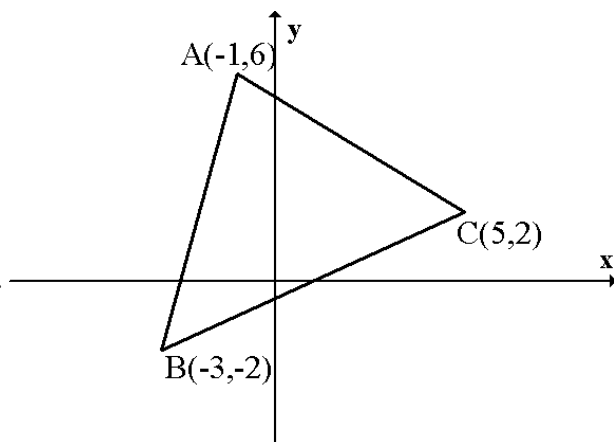


## Equation of a line

1. A line has equation  $2x + 4y - 3 = 0$ . Find the equation of the line parallel to this line passing through the point  $(-1, -8)$ .

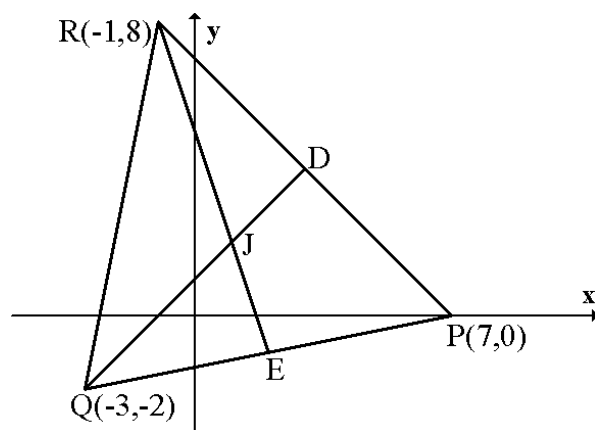
2. Triangle ABC has vertices  $A(-1, 6)$ ,  $B(-3, -2)$  and  $C(5, 2)$ .

- (a) Find the equation of the median from C.  
 (b) Find the equation of the perpendicular bisector of BC.  
 (c) Find the point of intersection of these two lines.



3. A triangle PQR has vertices  $P(7, 0)$ ,  $Q(-3, -2)$  and  $R(-1, 8)$ .  
 The median RE and the altitude QD intersect at J.

- (a) Find the equations of RE and QD.  
 (b) Find the coordinates of J.

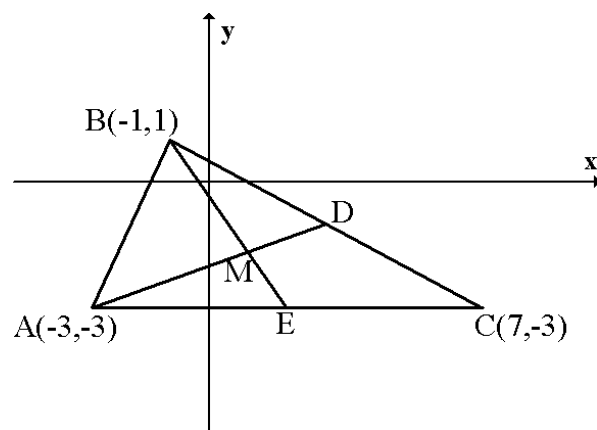


4. Triangle ABC has vertices  $A(2, 2)$ ,  $B(12, 2)$  and  $C(8, 6)$ .

- (a) **Write down** the equation of the perpendicular bisector of AB.  
 (b) Find the equation of the perpendicular bisector of AC.  
 (c) Find the point of intersection of these two lines.

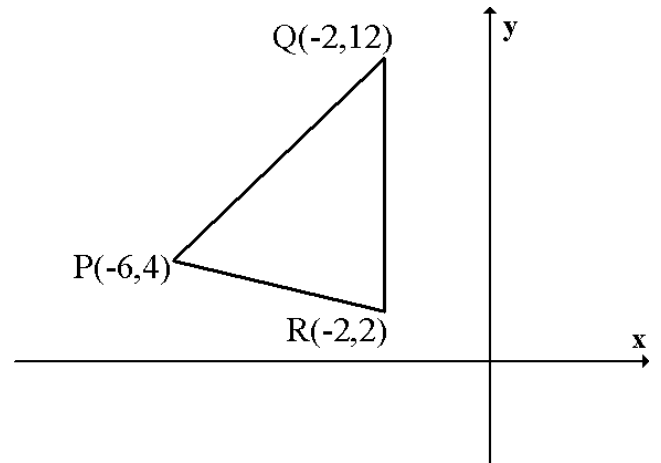
5. A triangle has vertices  $A(-3, -3)$ ,  $B(-1, 1)$  and  $C(7, -3)$ .

- (a) Show that triangle ABC is right-angled at B.  
 (b) The medians AD and BE intersect at M.  
 Find the equations of AD and BE.  
 (c) Hence find the coordinates of M.



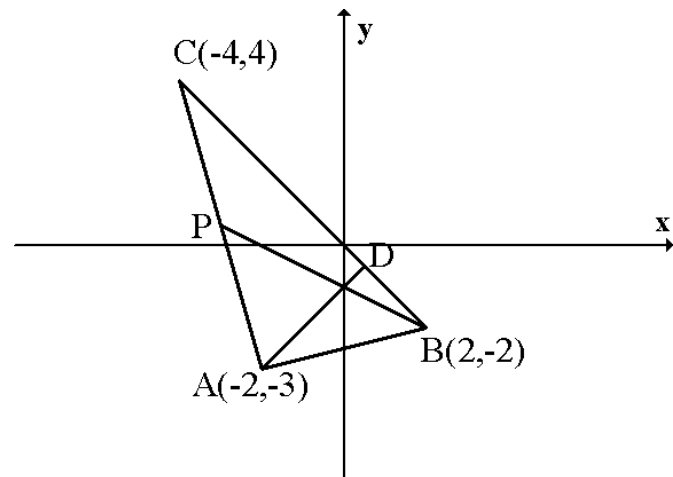
6. Triangle PQR has vertices  $P(-6,4)$ ,  $Q(-2,12)$  and  $R(-2,2)$ .

- Write down the equation of the perpendicular bisector of QR.
- Find the equation of the perpendicular bisector of PR.
- Find the point of intersection of these two lines.



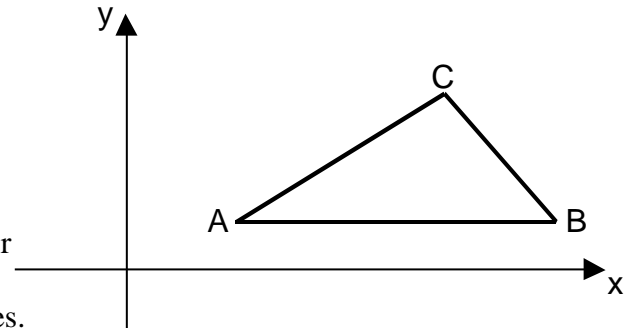
7. In triangle ABC, A is  $(-2,-3)$ , B is  $(2,-2)$  and C is  $(-4,4)$ .

- Find the equation of AD the altitude from A.
- Find the equation of BP, the median through B.
- Find the coordinates of the point of intersection of these two lines.



8. Triangle ABC has vertices  $A(4,2)$ ,  $B(14,2)$  and  $C(10,6)$ .

- Write down the equation of the perpendicular bisector of AB.
- Find the equation of the perpendicular bisector of AC.
- Find the point of intersection of these two lines.



9. The diagram opposite shows two lines MN and PQ which are perpendicular to each other.

P is the point  $(3, 2\sqrt{3})$ .

- Find the equation of the line PQ.
- Find the coordinates of Q.

