## Question 1

The vertices of triangle $A B C$ are $A(-5,7), B(-1,-5)$ and $C(13,3)$ as shown in the diagram.

The broken line represents the altitude from C.

(a) Show that the equation of the altitude from C is $x-3 y=4$.
(b) Find the equation of the median from $B$.
(c) Find the coordinates of the point of intersection of the altitude from C and the median from B .

Answers:
(a) Calculate gradient of $A B$, use property of perpendicular lines and coordinates of $C$.
(b) $y=2 x-3$
(c) $(1,-1)$

