Exercise 2015-11ℰG-00005(1)

(1) Calculate the equation of the following straight lines:

(a) through the points (1 ; 6) and (3 ; 6)

(b) through the points (-2 ; 6) and (3 ; 1)

(c) through the point (5 ; 0) perpendicular to the line $y - x - 7 = 0$

(d) through the origin and parallel to the $4 + 3x = y$

(2) A(-4 ; 4) , B(2 ; 6) and C(0 ; -4) are the vertices of Δ ABC.

(a) Calculate the coordinates of E and F, the mid-points of respectively AB and BC.

(b) Determine the equations of the medians AF and CE.
[A median is the line between the vertex of a triangle and the mid-point of the opposite side of the same triangle.]

(c) Calculate the coordinates of S, the point of intersection between AF and CE.

(3) MN // RT in the diagram.

(a) Calculate the equation of line RT.

(b) Calculate the equation of line MN.

(c) Calculate θ.
[Correct to 2 decimals.]