THE LINE (Q 2, PAPER 2)

2007

2 (a) Find the co-ordinates of the mid-point of the line segment joining the points
       $(2, -3)$ and $(6, 9)$.

   (b) The line L intersects the x-axis at $(-4, 0)$ and the y-axis at $(0, 6)$.
        (i)   Find the slope of L.

        (ii) Find the equation of L.

        The line K passes through $(0, 0)$ and is perpendicular to L.
        (iii) Show the lines L and K on a co-ordinate diagram.

        (iv) Find the equation of K.

   (c) $a(-4, 3)$, $b(6, -1)$ and $c(2, 7)$ are three points.
        (i)   Find the area of triangle abc.

        (ii) $abcd$ is a parallelogram in which $[ac]$ is a diagonal.
              Find the co-ordinates of the point d.

ANSWERS
2   (a) (4, 3)
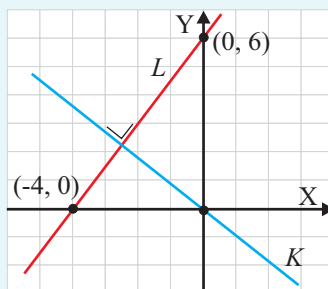   (b) (i) $\frac{3}{2}$ (ii) $3x - 2y + 12 = 0$
         (iii)   (iv) $2x + 3y = 0$

     (c) (i) 32   (ii) $d(-8, 11)$