THE LINE (Q 2, PAPER 2)

LESSON NO. 7: TRANSLATIONS & SYMMETRIES

2006

- 2 (b) *L* is the line 3x + 2y + c = 0.
 - (i) (3, -1) is a point on *L*. Find the value of *c*.
 - (ii) The line *K* is parallel to *L* and passes through the point (-2, 5). Find the equation of *K*.
 - (iii) The lines *L* and *K*, together with the line x = 3 and the *y*-axis, form a parallelogram. Find the co-ordinates of the vertices of the parallelogram.

1998

2 (b) a(2, -1), b(-2, 3), c(-1, -1) and d(4, -6) are points.

- (i) Show that *ab* is parallel to *cd*.
- (ii) Investigate if *abcd* is a parallelogram. Give a reason for your answer.

1997

2 (c) K is the line which contains the points a(0, 4) and b(3, 0).
Find the equation of K.
N is the line which is perpendicular to K and which contains the origin.
Find the equation of N.
Investigate if b is the image of a under the axial symmetry in N.

Answers 2006 2 (b) (i) c = -7 (ii) 3x + 2y - 4 = 0(iii) (0, 2), $(3, -\frac{5}{2})$, $(0, \frac{7}{2})$, (3, -1)1998 2 (b) (ii) It is not a parallelogram because *ad* is not parallel to *bc*. 1997 2 (c) *K*: 4x + 3y - 12 = 0; *N*: 3x - 4y = 0; No