THE LINE (Q 2, PAPER 2)

1999 2 (a) The point (k, 1) lies on the line 4x-3y+15=0. Find the value of k. (b) p(4, 3), q(-1, 0) and r(10, 3) are three points. (i) Find the slope of pq. (ii) Find the equation of the line through r which is parallel to pq. (iii) Find the equation of the line which is perpendicular to pq and which contains the origin. (c) a(0, 5), b(x, 10) and c(2x, x) are three points. Find |ab| in terms of x. If |ab| = |bc|, calculate the two possible values of x.

Answers 2 (a) k = -3(b) (i) $\frac{3}{5}$ (ii) 3x - 5y - 15 = 0 (iii) 5x + 3y = 0(c) $|ab| = \sqrt{x^2 + 25}$; x = 5, 15