## The Line (Q 2, Paper 2)

## 2011

2. (a) Verify that the point $(2,-4)$ is on the line $3 x-y=10$.
(b) $P(2,8), Q(4,-1)$ and $R(6,0)$ are three points.
(i) Find the slope of $P R$.
(ii) Show that $P R$ is perpendicular to $R Q$.
(iii) Find the equation of $R Q$.
(iv) Find the co-ordinates of the point at which $R Q$ intersects the $y$-axis.
(c) $A(-1,-6), B(6,8)$ and $C(2,5)$ are three points.
(i) Find the area of the triangle $A B C$.
(ii) Find the co-ordinates of two possible points $D$ on the $x$-axis such that area of triangle $A B D=$ area of triangle $A B C$.

## Answers

2
(b) (i) -2
(iii) $x-2 y-6=0 \quad$ (iv) $(0,-3)$
(c) (i) $\frac{35}{2}$ square units
(ii) $D\left(-\frac{1}{2}, 0\right),\left(\frac{9}{2}, 0\right)$

