Leave blank

4. The point A $(-6, 4)$ and the point B $(8, -3)$ lie on the line L.

(a) Find an equation for L in the form $ax + by + c = 0$, where a, b and c are integers.

(4)

(b) Find the distance AB, giving your answer in the form $k\sqrt{5}$, where k is an integer.

(3)

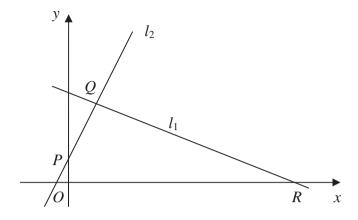Q4

(Total 7 marks)

10.

Figure 2

The points Q (1, 3) and R (7, 0) lie on the line l_1, as shown in Figure 2.

The length of QR is $a\sqrt{5}$.

(a) Find the value of a.

(3)

The line l_2 is perpendicular to l_1, passes through Q and crosses the y-axis at the point P, as shown in Figure 2.

Find

(b) an equation for l_2,

(5)

(c) the coordinates of P,

(1)

(d) the area of ΔPQR.

(4)

H 2 9 9 9 2 A 0 2 2 2 8
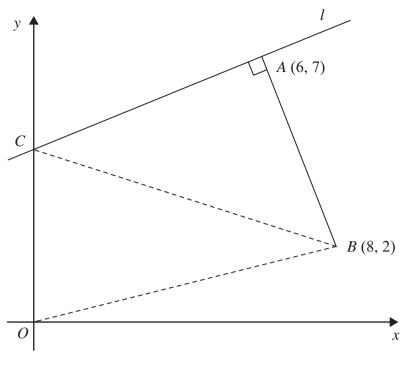
8.

Figure 1

The points *A* and *B* have coordinates (6, 7) and (8, 2) respectively.

The line *l* passes through the point *A* and is perpendicular to the line *AB*, as shown in Figure 1.

(a) Find an equation for *l* in the form $ax + by + c = 0$, where *a*, *b* and *c* are integers.

(4)

Given that *l* intersects the *y*-axis at the point *C*, find

(b) the coordinates of *C*,

(2)

(c) the area of $\triangle OCB$, where *O* is the origin.

(2)

H 3 4 2 6 2 A 0 1 4 2 8