

**Straight line graphs As level Edexcel Maths Past Papers**  
**Questions**

**01.**

The line  $l$  passes through the points  $A (3, 1)$  and  $B (4, -2)$ .

Find an equation for  $l$ .

(3)

02.

The line  $l_1$  has equation  $4y - 3x = 10$

The line  $l_2$  passes through the points  $(5, -1)$  and  $(-1, 8)$ .

Determine, giving full reasons for your answer, whether lines  $l_1$  and  $l_2$  are parallel, perpendicular or neither.

(4)

**03.**

The line  $l_1$  has equation  $2x + 4y - 3 = 0$

The line  $l_2$  has equation  $y = mx + 7$ , where  $m$  is a constant.

Given that  $l_1$  and  $l_2$  are perpendicular,

(a) find the value of  $m$ .

(2)

The lines  $l_1$  and  $l_2$  meet at the point  $P$ .

(b) Find the  $x$  coordinate of  $P$ .

(2)

04.

In 1997 the average CO<sub>2</sub> emissions of new cars in the UK was 190 g/km.

In 2005 the average CO<sub>2</sub> emissions of new cars in the UK had fallen to 169 g/km.

Given  $A$  g/km is the average CO<sub>2</sub> emissions of new cars in the UK  $n$  years after 1997 and using a linear model,

(a) form an equation linking  $A$  with  $n$ .

(3)

In 2016 the average CO<sub>2</sub> emissions of new cars in the UK was 120 g/km.

(b) Comment on the suitability of your model in light of this information.

(3)

05.

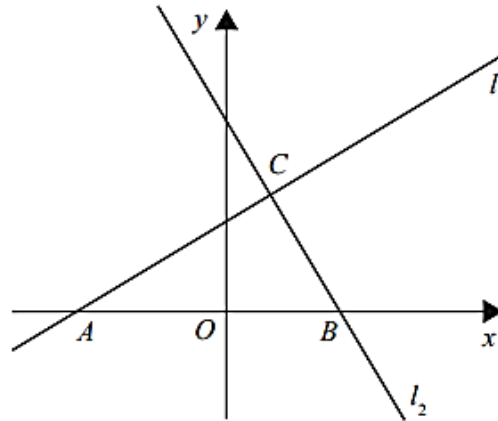


Figure 4

The line  $l_1$  has equation  $y = \frac{3}{5}x + 6$

The line  $l_2$  is perpendicular to  $l_1$  and passes through the point  $B(8,0)$ , as shown in the sketch in Figure 4.

(a) Show that an equation for line  $l_2$  is

$$5x + 3y = 40$$

(3)

Given that

- lines  $l_1$  and  $l_2$  intersect at the point  $C$
- line  $l_1$  crosses the  $x$ -axis at the point  $A$

(b) find the exact area of triangle  $ABC$ , giving your answer as a fully simplified

fraction in the form  $\frac{p}{q}$

(5)