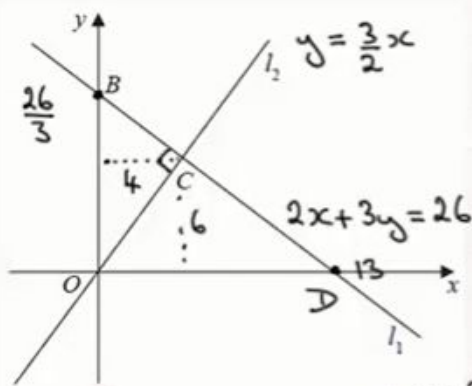




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Intersection of a line | Past Paper Question | Edexcel C1 Core Maths June 2014 Q9(b)



The line l_2 intersects the line l_1 at the point C .

Line l_1 crosses the y -axis at the point B as shown

(b) Find the area of triangle OBC .

Give your answer in the form $\frac{a}{b}$, where

a and b are integers to be determined. (6)

$$l_1: 2x + 3y = 26$$

$$\therefore \text{When } x = 0, y = \frac{26}{3}$$

$$\therefore B\left(0, \frac{26}{3}\right)$$

$$l_2: 2x + 3y = 26 \quad (1)$$

$$y = \frac{3}{2}x \quad (2)$$

Sub. (2) in (1)

$$\therefore 2x + \frac{9}{2}x = 26$$

$$\therefore \frac{13}{2}x = 26 \Rightarrow x = 4$$

$$\therefore \text{Area of } \triangle OBC = \frac{1}{2} \left(\frac{26}{3}\right) (4)$$

$$= \frac{52}{3} \text{ sq units}$$

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