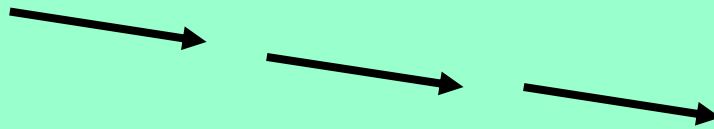




8.

Intersection of Straight Lines

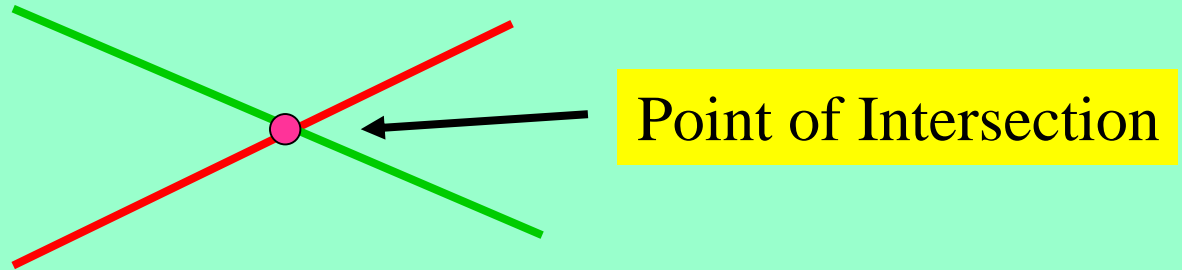
Solving simultaneous equations



Intersection of Straight Lines

Copy the following:

The point of intersection of straight lines is the point where they cross:



To find the point of intersection we must solve the **simultaneous equations** created from the equations of the lines

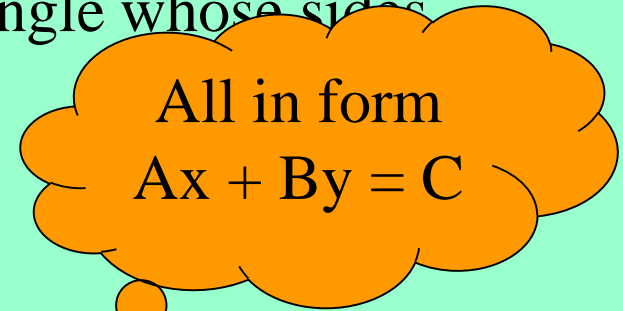
Example 1

Find the coordinates of the vertices of the triangle whose sides have the equations:

$$x = 2$$

$$x + y = 6$$

$$3x + 4y = 21$$



Solution :

1. Take one pair of equations and solve to find vertex 1

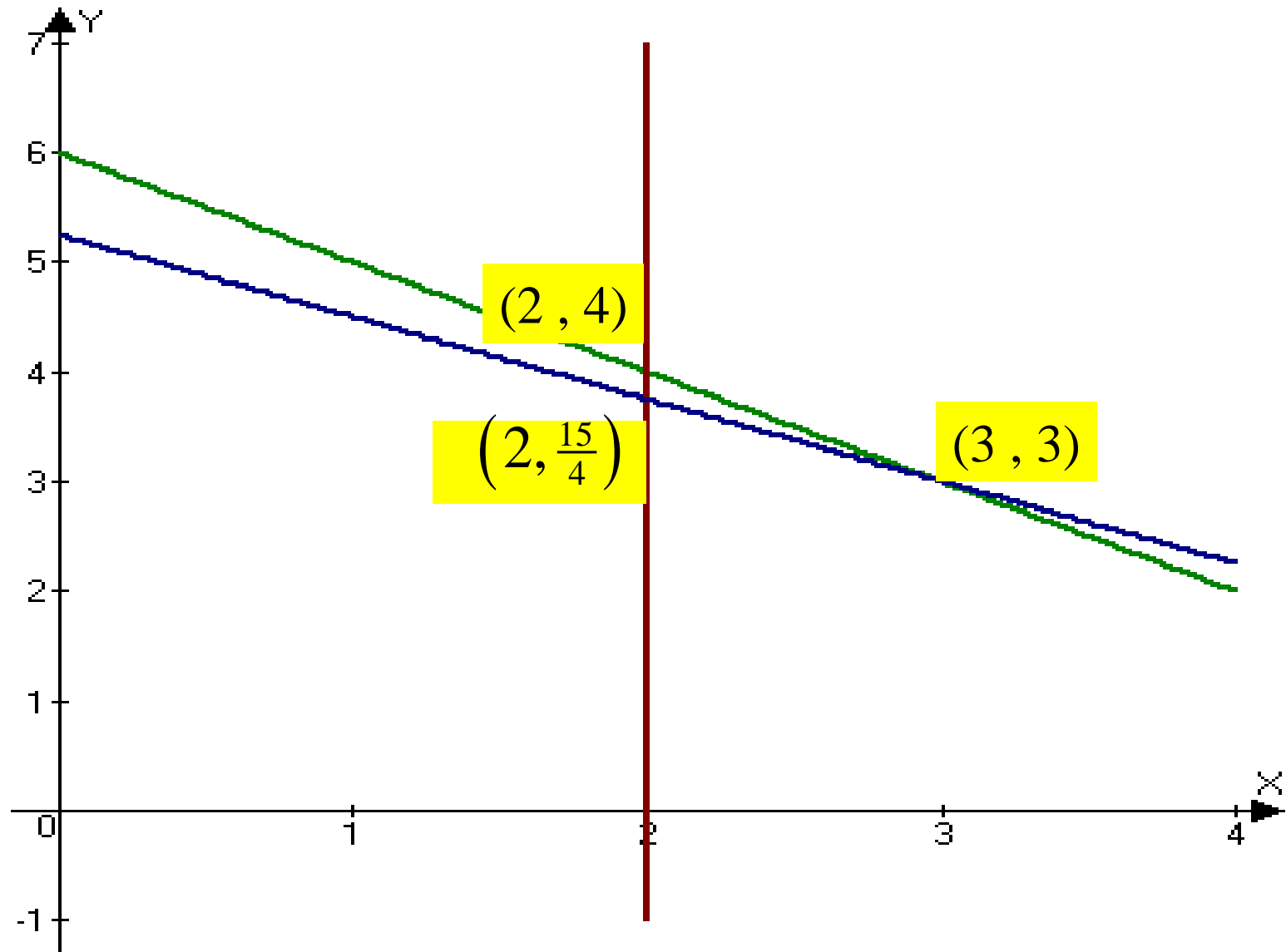
$$\left. \begin{array}{l} x = 2 \\ x + y = 6 \end{array} \right\} (2) + y = 6$$

$$y = 4 \longrightarrow (2, 4)$$

2. Take a different pair of equations and solve to find vertex 2

$$\left. \begin{array}{l} x = 2 \\ 3x + 4y = 21 \end{array} \right\} \begin{array}{l} 3(2) + 4y = 21 \\ 4y = 15 \end{array}$$

$$y = \frac{15}{4} \longrightarrow \left(2, \frac{15}{4}\right)$$



Homework booklet, Exercise 8