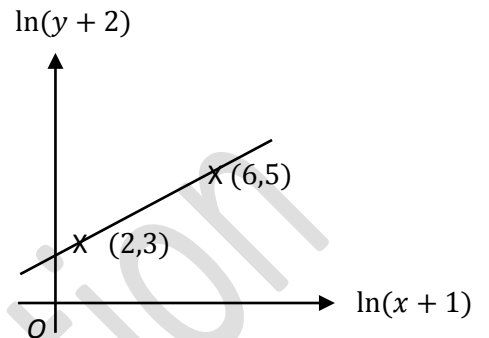


## (9) Linear Law

1. The diagram shows part of a straight line obtained when plotting values of  $\ln(y + 2)$  against  $\ln(x + 1)$ . Express  $y$  in terms of  $x$ .



2. In each of the following,  $a$  and  $b$  are unknown constants. Express each of them into the form  $Y = mX + c$ , where  $X$  and  $Y$  are functions of  $x$  and/or  $y$ , and  $m$  and  $c$  are constants.
- $y^b = 10^{x+a}$
  - $ya^x = b + 2$
  - $y = \frac{a}{\sqrt{x-b}}$
3. Alvin and Gina both used linear law to express the same equation into forms suitable for drawing straight line graphs. As they expressed the equation differently, 2 different graphs were obtained (as shown below). Determine the original equation relating  $x$  and  $y$ .

