10 The gradient of the normal to a curve at the point (x, y) is given by $\frac{x}{x+1}$.

(a) Given that the curve passes through the point (1, 4), show that its equation is $y = 5 - \ln x - x$. [5]

(b) Find, in the form $y = mx + c$, the equation of the tangent to the curve at the point where $x = 3$.
[3]