4. A process can be represented by the first order equation

$$4\frac{dy(t)}{dt} + y(t) = 3u(t)$$

Assume the initial state is steady ($y = 0$ at $t = -0$).

(a) Determine the transfer function of this process in the s domain.

(b) If the input is a ramp change in $u(t) = 4t$, determine the value of $y(t)$ when $t = 10$ s.