(1)[5 points] Find the derivative of $G(t) = \dfrac{4t}{t+1}$ using the definition of the derivative. State the domains of both $G(t)$ and $G'(t)$.

(2)[**5 points**] Differentiate

$$y = \frac{x^2 + 4x + 3}{\sqrt{x}} \ .$$

(3)[**5 points**] The equation of motion of a particle is $s = t^3 - 3t$, where s is in metres and t is in seconds. Find the acceleration after 2 seconds. Include units in your answer.