1. Find a function $f(x)$ which satisfies $f'(x) = \dfrac{2}{\sqrt{1-x^2}} + x + 3^x$ and $f(0) = 0$.

2. Suppose a particle moves along a line with acceleration given by $a(t) = 6t - 8$ at time t, with positions $s(0) = 1$ and $s(1) = -2$. Find the equation of the position function $s(t)$.