The graph of f is shown below. The function $F(x)$ is defined by $F(x) = \int_0^x f(t)\,dt$ for $0 \le x \le 4$.

1. Find $F(0)$ and $F(3)$.

2. Find $F'(1)$.

3. For what value of x does $F(x)$ have its maximum value? What is this maximum value?