Problem statement Suppose $F(x) = \int_1^x f(t)\,dt$ where f is the function whose graph is displayed. The graph consists of three line segments (for x between 0 and 3) followed by an unknown curve. Also, the value of $\int_0^5 f(t)dt$ is $-\frac{2}{3}$.

a) What is $F(5)$?

b) Find the equation of the line tangent to the graph of $F(x)$ at the point $(3, F(3))$.