Math 1100 — Calculus, Quiz #10B — 2010-01-21

1. Compute the general antiderivative of each of the following functions:

(20) (a) $f(x) = x^7 + 2$.

Solution: $F(x) = \frac{1}{8}x^8 + 2x + C$. □

(20) (b) $g(x) = \sqrt[3]{x+5}$.

Solution: $F(x) = \frac{3}{4}(x+5)^{4/3} + C$. □

(20) (c) $h(x) = x^7 + 2 + \sqrt[3]{x+5} + \ln(x)$.

Solution: $F(x) = \frac{1}{8}x^8 + 2x + \frac{3}{4}(x+5)^{4/3} + \frac{1}{x} + C$. □

(40) 2. Let f be the function shown below. Suppose F is an antiderivative of f, and $F(0) = 0$. Sketch the graph of F.