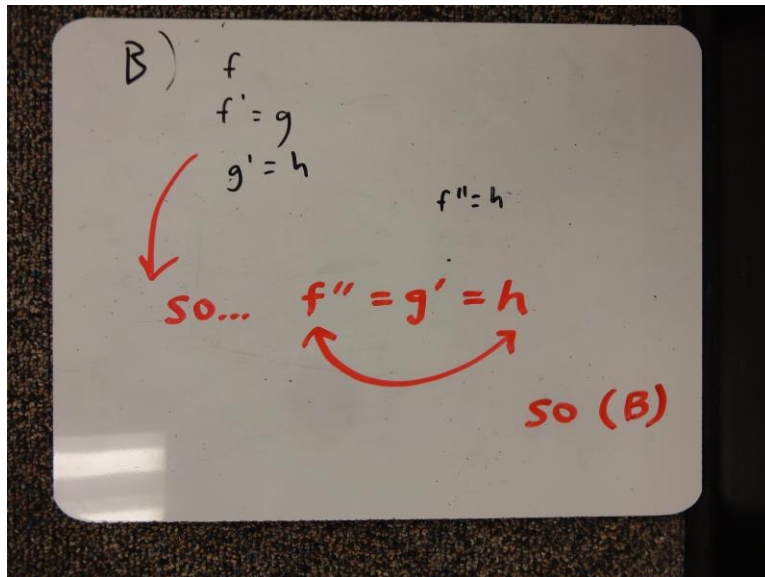
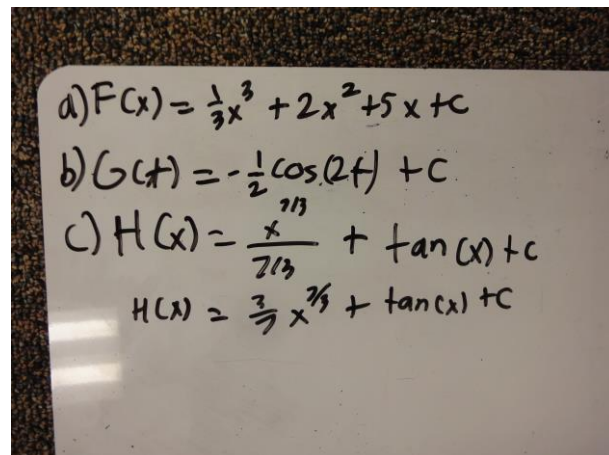
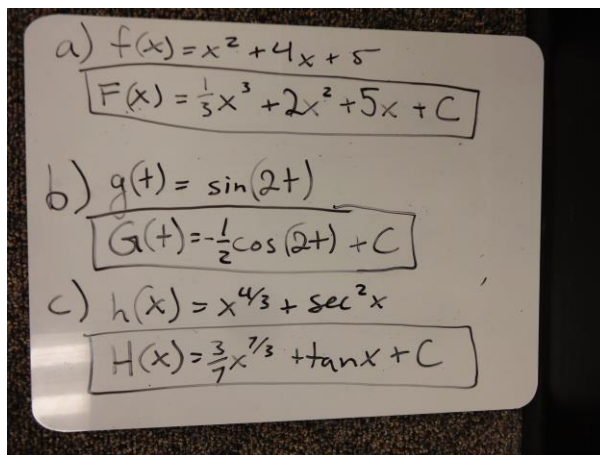


Antiderivatives

Warm Up Problem:



Finding some basic antiderivatives (these boards are in agreement):



Finding a unique function $f(x)$ that satisfies $f'(x) = x^2 - 2x$ and $f(1) = \frac{1}{3}$:

Handwritten solution on a piece of paper:

Find Unique function

$$f(x) \quad , \quad f'(x) = x^2 - 2x \quad \text{and} \quad f(1) = \frac{1}{3}$$
$$f'(x) = x^2 - 2x$$
$$f(x) = \frac{x^3}{3} - x^2 + C$$
$$f(1) = \frac{1}{3} - 1 + C = \frac{1}{3}$$
$$-1 + C = 0$$
$$C = 1$$
$$f(x) = \frac{x^3}{3} - x^2 + 1$$