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1. (5 pts) Find all functions $f(x)$ such that

$$f'(x) = e^{2x} - \csc^2(x) + \frac{2}{x^3}$$

$$f(x) = \frac{1}{2}e^{2x} + \cot(x) - x^{-2} + C$$

2. (5 pts) Let $f'(x) = 60x^2 - 51$. If $f(0) = 31$, then what is $f(1)$?

$$f(x) = 20x^3 - 51x + C$$

$$f(0) = C = 31$$

$$f(1) = 20 - 51 + 31 = 0$$

Good luck on all your finals. I hope this class wasn't unforgettably horrible.