MATH 30, SPRING 2020: "u-SUBSTITUTION"

(1) Find the derivative of $g(x) = e^{x^2}$.

(2) Evaluate the indefinite integral $\int xe^{x^2}\,dx$ using the previous problem (recognize that you are integrating the derivative of something).

(3) Now find the integral using the "u, du" notation from class. (It's just a systematic way of doing the same thing.)

(4) Now evaluate the definite integral $\int_0^2 xe^{x^2}\,dx$.