

5. [8 points] In each part of this problem, **circle all correct options**. There may be more than one correct answer for each part. If none of the options are correct, then circle NONE OF THESE. You must circle your answers entirely to receive credit on this problem, but no work is necessary.

a. [4 points] Which of the following are antiderivatives to the function $G(x) = e^{x^2}$?

$$\int_0^{x^2} e^t dt \qquad \int_{100}^x e^{t^2} dt \qquad \frac{e^{x^2}}{2x} \qquad \frac{e^{x^2}}{2x} - \frac{e^{x^2}}{2}$$

NONE OF THESE

- b. [4 points] Consider a solid whose base is the region bounded by the line $y = 2 - 2x$, the x -axis and the y -axis, and whose cross sections perpendicular to the x -axis are rectangles with their base being half of their height. Which of the following are equal to the volume of the solid?

$$\int_0^2 2\left(1 - \frac{y}{2}\right)^2 dy \qquad \int_0^2 \left(1 - \frac{y}{2}\right)^2 dy$$
$$\int_0^1 2(2 - 2y)^2 dy \qquad \int_0^1 (2 - 2y)^2 dy$$

NONE OF THESE