Student Name: Student Number: Serial No.: Date: 10-4-2016.

Question 1: (6 points each) Evaluate the following integrals:

(a)
$$\int x e^{x^2} dx$$

(b)
$$\int_{1}^{2} \frac{x+1}{x} dx$$

(c)
$$\int \frac{\ln x^3}{x} dx$$

(d)
$$\int 2^{x+2} 5^x dx$$

Question 2: (a) (7 Points) Use differentials to approximate $\sqrt[4]{17}$.

(b) (9 Points) Find the area enclosed by the graphs of y = -1 - x and $y = 1 - x^2$.