

Math 125

Quiz 2 (20 minutes)

Name \_\_\_\_\_ Student number \_\_\_\_\_ Quiz section: \_\_\_\_\_

*There are three problems in this quiz (the other one is on the back of this page), total of 20 points. Write legibly and show your work fully.*

1 (5 points) Find the derivative of  $f(x) = \int_{x^2}^{e^{2x}} (\ln t + \sin t) dt$ .

2 (5 points) Evaluate the definite integral  $\int_0^{\frac{\sqrt{\pi}}{2}} x \cos(x^2) dx$ .

**3.** Evaluate the indefinite integral.

(a) (5 points)  $\int x\sqrt{x+1} dx$ ;

(b) (5 points)  $\int \frac{(1-x^2)^2}{\sqrt{x}} dx$ .