

**PILOT LEARNING
CALCULUS II ENGINEERING
PROBLEM-SET 1
FALL 2019**

- Evaluate the following integrals

(1)

$$\int x e^{6x^2} dx$$

(2)

$$\int \cos(3x) \cos(8x) dx$$

(3)

$$\int \frac{x^3}{x+1} dx$$

(4)

$$\int x^3 e^{x^2} dx$$

(5)

$$\int \tan^3(x) dx$$

- Let f be twice differentiable with $f(0) = 6$, $f(1) = 2$, and $f'(1) = 3$. Evaluate the integral

$$\int_0^1 x f''(x) dx.$$