



2nd Quiz

Student Name in Arabic:

Section: B.N. :

1) Find F(s) of the following functions:

$$\text{a) } f(t) = \sin t H(t-\pi) + \frac{e^{2t} - e^{-3t}}{t}, \quad \text{b) } f(t) = \begin{cases} 2 & 0 < t \leq 2 \\ 3t & 2 < t \leq 3 \\ t^2 & t > 3 \end{cases}$$

2) Find inverse Laplace of the following functions

$$\text{a) } F(s) = \frac{se^{-2s}}{s^2 + 4s + 9}, \quad \text{b) } F(s) = \frac{1}{s^3(s+3)}, \quad \text{c) } F(s) = \frac{1}{(s+9)^3},$$

3) Evaluate the following integrals

$$\int_0^3 \frac{dt}{\sqrt{3t-t^2}}$$

$$\int_0^{\infty} \frac{e^{2t} - e^{-3t}}{t} dt$$