Serial #

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**-1 point for not writing your serial #**

**King Fahd University of Petroleum & Minerals**

Electrical Engineering Department

EE207: Signals & Systems (121)

**Quiz 6: Laplace Transform**

**Dr. Ali Hussein Muqaibel**

Name:

Tables are attached

**Find the Laplace transform of** $u\left(t-2\right)u(5-t)$

$$L\left[f\left(t-t\_{0}\right)u\left(t-t\_{0}\right)\right]=e^{-t\_{0}s}F(s)$$

1. $u\left(t-2\right)u\left(5-t\right)=u\left(t-2\right)-u(t-5)$

$note that u\left(t-2\right)=u\left(t-2\right)u(t-2)$ for which we can find the Laplace transform

$$ recall that L\left[u(t)\right]=\frac{1}{s}$$

$$L[u\left(t-2\right)u\left(5-t\right)]=\frac{e^{-2s}}{s}-\frac{e^{-5s}}{s}$$

**Find the Laplace transform of** $3e^{-at}u(t-a)$

1. $3e^{-at}u\left(t-a\right)=3e^{-a^{2}}e^{-a(t-a)}u\left(t-a\right)$

$$L[3e^{-at}u\left(t-a\right)]=3e^{-a^{2}}\frac{e^{-as}}{s+a}$$

**Find the inverse Laplace transform of** $Y\left(s\right)=\frac{10}{s^{2}+10s+16}$

 Method 3 is the preferred method!



The first two parts are HW problems!

**Good luck, Dr. Ali Muqaibel**



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 Good Luck, **Dr. Ali Muqaibel**