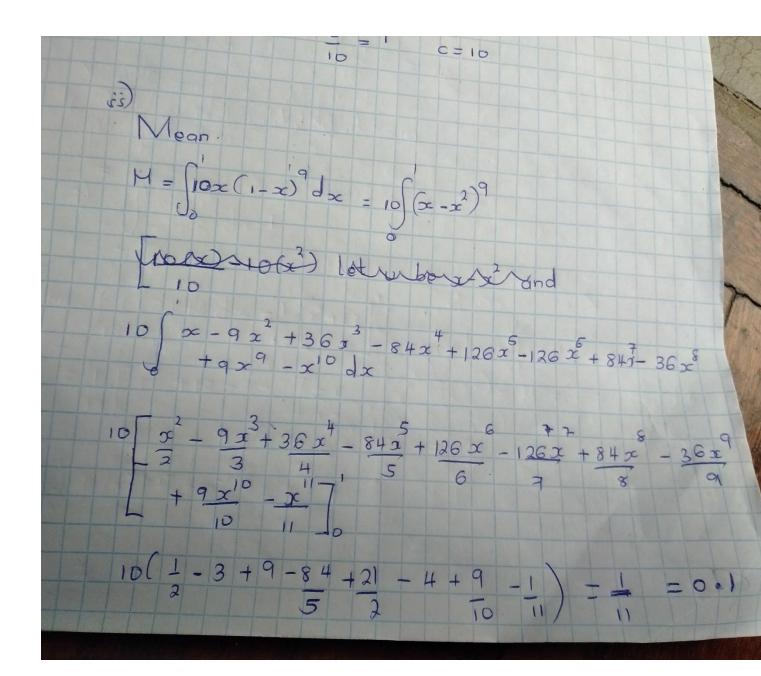
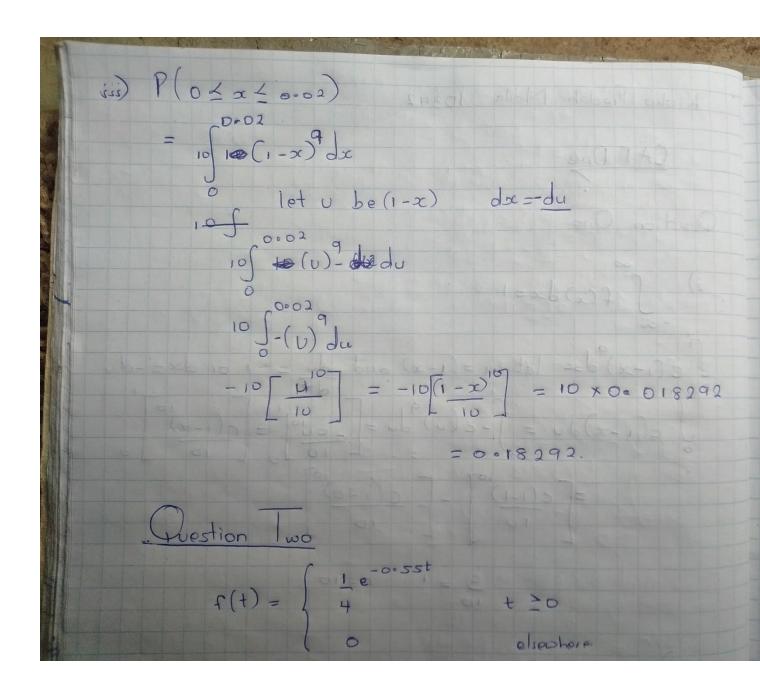
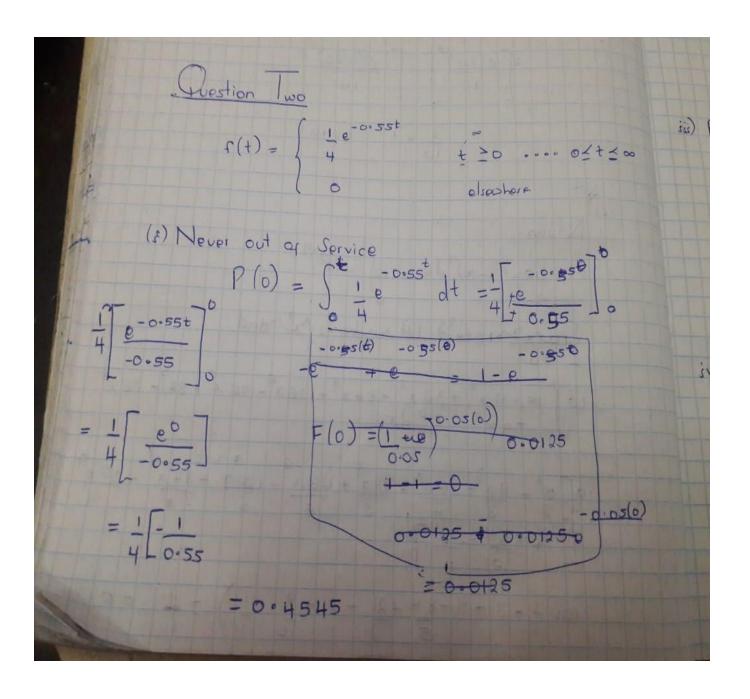
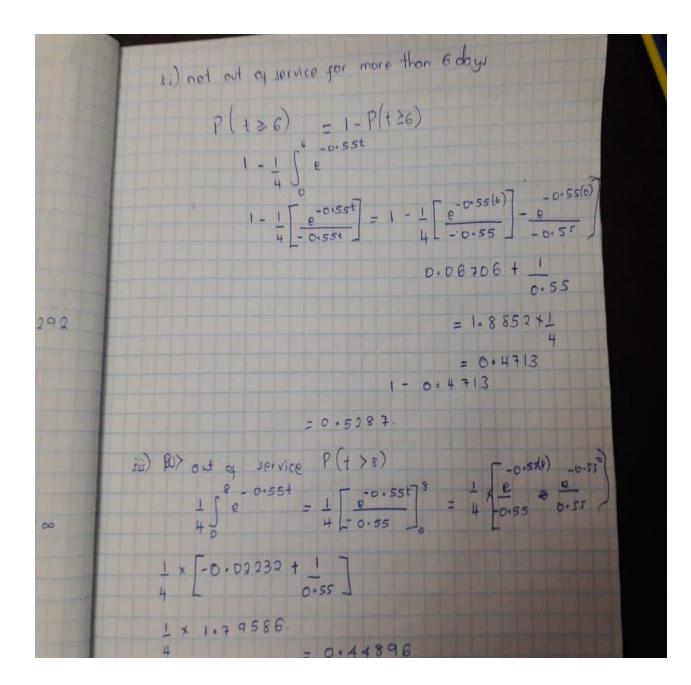
Fredah Kioko-103428 CAT 1 PROBABILITY AND STATISTICS 2A

Fredan Kioko-103428 CAT 1 PROBABILITY AND STATISTICS ZA
Kioko Fredoh Ndila 10342
CATOne
Question One
$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x) dx = 1$
$\int_{0}^{1} c(1-x)^{9} dx = let u = (1-x) \text{ and } du = -1 \text{ or } dx = -du$
$\int_{0}^{\infty} c(1-x)du = \int_{0}^{\infty} -c(u)^{9}du = \left[-\frac{dx}{10} \right]_{0}^{\infty} = \left[-\frac{dx}{10} \right]_{0}^{\infty}$
$= \begin{bmatrix} c(1-1)^{107} - \frac{10}{10} \\ 10 \end{bmatrix}$
0 = 1









is) Por out of service P(t > 8) $\frac{1}{4} \int_{0}^{8} e^{-0.55t} = \frac{1}{4} \left[\frac{e^{-0.55t}}{e^{-0.55t}} \right]^{8} = \frac{1}{4} \left[\frac{e^{-0.55t}}{e^{-0.55}} \right]^{8}$ $\frac{1}{4} \times \left[-0.02232 + \frac{1}{0.55} \right]$ $\frac{1}{4} \times \left[-0.02232 + \frac{1}{0.55} \right]$ $\frac{1}{4} \times \left[-0.44896 \right]$ iv) Mean $= \frac{1}{4} \int_{0}^{8} e^{-0.55t} dt = \left(\frac{1}{2} \right)$ $H = f(x) = \int_{0}^{8} A x e^{-\lambda x} dx = H = 1$ $= \frac{1}{4} e^{-0.55t}$ $= \frac{1}{4} e^{-0.55t}$