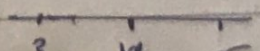
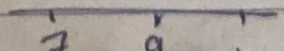
Anas Sami Nimer Quiz 1 1180180

exc1

$\Pi\left(\frac{t-4}{2}\right) \Rightarrow$ 

$\Pi\left(\frac{t-9}{4}\right) \Rightarrow$ 

$$E = \int_3^5 (20)^2 e^{-4t} + \int_7^{11} e^{4t}$$

$$= \frac{(20)^2}{-4} e^{-4t}\Big|_3^5 + \frac{1}{4} e^{4t}\Big|_7^{11}$$

$$= -100\, e^{-4t}\Big|_3^5 + \frac{1}{4} e^{4t}\Big|_7^{11}$$

$$= -100\left[e^{-20} - e^{-12}\right] + \frac{1}{4}\left[e^{44} - e^{28}\right]$$

$$= 3.213 \times 10^{18}$$

$$= 0.024 + 179185121$$

$$= 1.8 \times 10^{9}$$

$$P = \lim_{n\to\infty} \int_{-\infty}^{\infty} \frac{E}{2T} = 0$$

is energy

exc 2 ~~$x(t)\,\delta(2(t+\frac{1}{2}))$~~ $x(t) = \delta(2(1+t))$

$\therefore t_0 = \frac{-1}{2}$

$$x\left(\frac{-1}{2}\right) = 6a\left(\frac{-1}{2}\right)^2 \cos^2\left(4\pi \cdot \frac{-1}{2} + \frac{\pi}{6}\right)$$

$$= \frac{6}{4}\cos^2\left(-2\pi + \frac{\pi}{6}\right)$$

$$= \frac{6}{4}\cos^2\left(\frac{-11\pi}{6}\right)$$

$$= \frac{3}{2}\cos^2\left(\frac{-11}{6}\pi\right)$$

$$= 2.98$$

by sampling therom