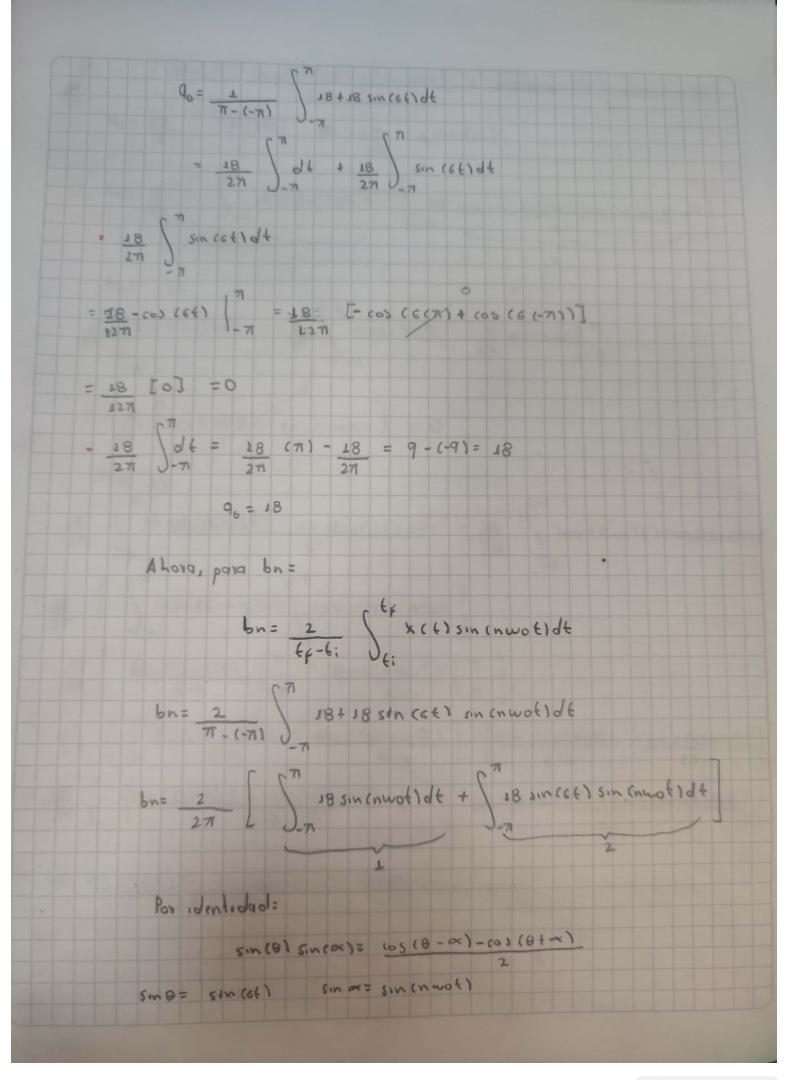
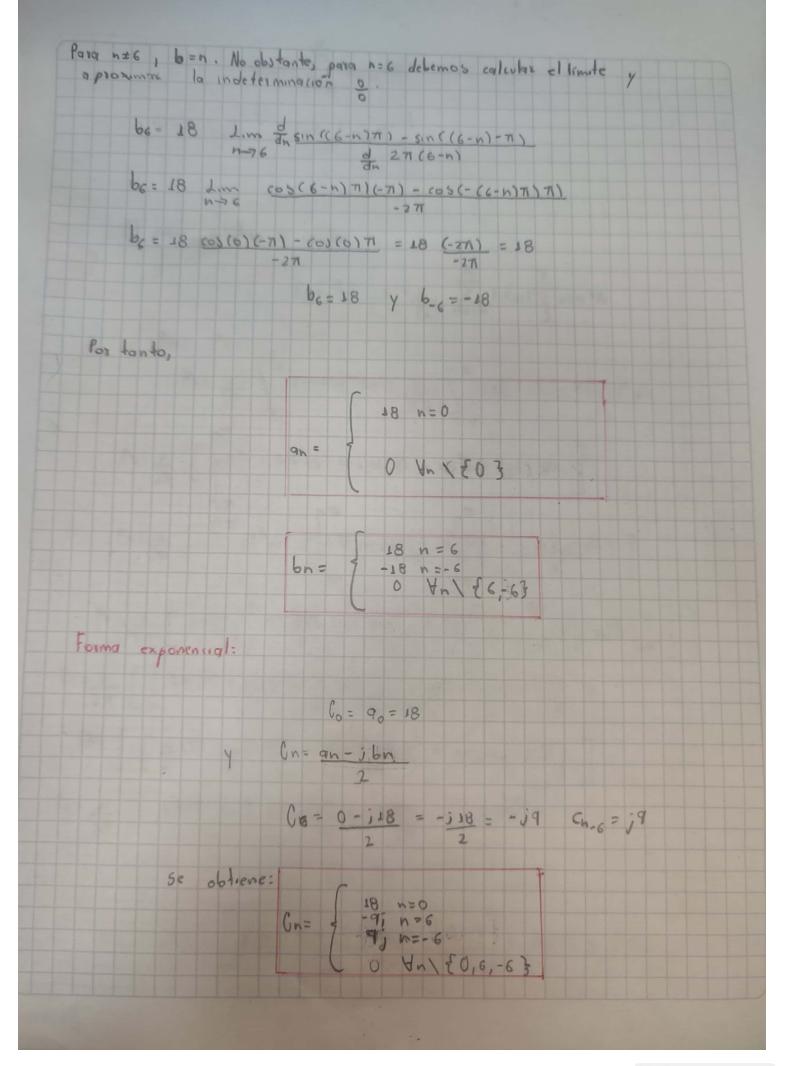
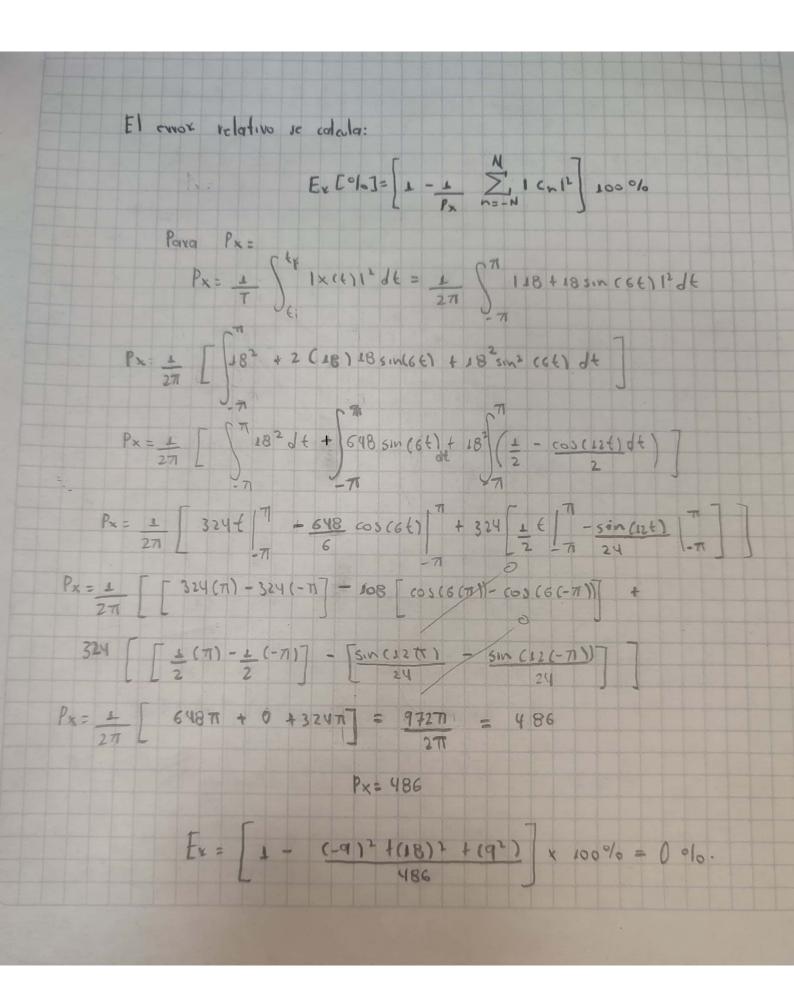
2.1) Encuentre la expresión del espectivo de Fourier contre exponenciality d'ungonométrical para la señal x(1)= 16sin (3++711) conte [-7,71] X (+)= 1651 (3++ 1) 12= 62 51 (3+ + 1) Por volentiolad= Sin3 (0) = 1 - cos (20) Sc obtienes $\times (1) = 36 \left(\frac{1}{2} - \cos(6t + \pi/2) \right) = 36 - 18\cos(6t + \pi/2)$ x(1)=18-18 (05 (6(+7/2) (05 (0+7/2) = -5 in (0) x(t)= 18 + 18sin (6t) forma trigonométrica: x(t)=q + Z ancol (nwot) + bn sin (nwot) Ya que x(t) corresponde a una función sena, el sena presenta simedia impar, entances x(f)=-x(-t) Entonces, 9n= 0 Finalmente: x(t)= 18 + 18 sin (6t) = 90 + 2 busin (nwot) a= co= + } x(+)d+



= cos(6t - nwot)-cos(6t+nwot) = cos(16-nwo)+)-cos(6+nwo)+) Wo = 27 T=27 Wo = 27 = 1 (vad15) $\frac{2}{2\pi} \begin{cases} \frac{\pi}{18} \sin(nt) dt = \frac{9}{\pi} \begin{cases} \frac{\pi}{18} \sin(nt) dt = \frac{-18}{18} \cos(nt) \\ \frac{\pi}{18} \end{cases}$ = -18 [(OS (NT) - (O) (-NT)] = 0 $\frac{2}{2\pi} \int_{-\pi}^{\pi} \frac{18 \cos((6-n)!) - \cos((6+n)!) dt}{2} = \frac{18}{2\pi} \int_{-\pi}^{\pi} \cos((6-n)!) \cos((6+n)!) dt}{2}$ = 18 (cos((6-n)t)dt) (cos ((6+n)t)dt] = 18 Sin (16-n) + 1 - sin (16+n) + 1 | T | 5th [51 ((6-n)7 - sin((6-n)-7)] - [sin ((6+n)7) - sin ((6+n)-7) = 18 sin ((6-n)T)- sin ((6-n)-71) - 18 sin ((6+n)T) - sin ((6+n)-71)
27 (6-n)





y la señal mensage m(t) E R. Encuentre el espectro en la frecuencia de la señal modula en amplitud CAMI, y(6) = (1+m(t)) =(1). La transpormada de tourier de la señal modulada se puede Y(w)= F { y (1)} = F { (1 4m (1) } cus 5 = F { (1+ m(+) 13+ F { c(4) 3 = + { c(6) 3 + 1 F { m(4) c(4) 3}} Utilizando las tablas de favieri c (w)= F &c (4) } = F & Accos (27/64) } cos (e) = e je te ((w) = Ac F = 127 Fc + =127 Fc +] Ac F { eiznFct} + F { eiznFct} Decimos gre: € F € e + jwot 3 = 2π δ (w = wo) Ac [276 (w-27Fc)+276 (w+27Fc)] ACTTS (W- 2TTE) + ACTT SCUT 2TTE) Coul = AcT of (CW-27Fc) + (W+27Fc)) · F = m(4) (Ac Cos(27Fc6)) } = F & cos (27 Fc63 m(+))} F { m(t) e; 27/Fct } + F { m(t) e 27/Fct }

