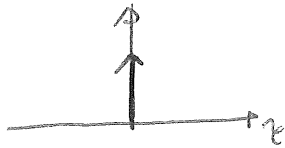


ES.3

I)  $B$  ogni realizz. è una funzione deterministica

II)  $R_x(t_1, t_2) = R_x(t_1 + T_A, t_2 + T_A) \forall T_A$

III)  $A \bar{B}$



ES.4

I)  $P(A|B) = P(A)$  se  $A$  e  $B$  eventi indipendenti

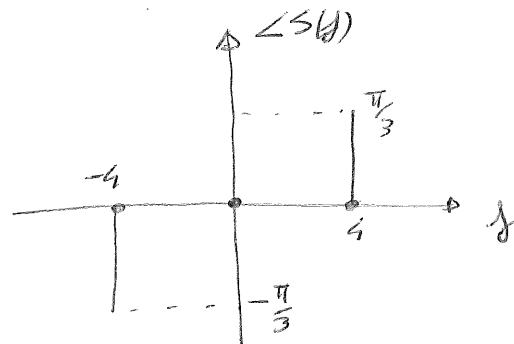
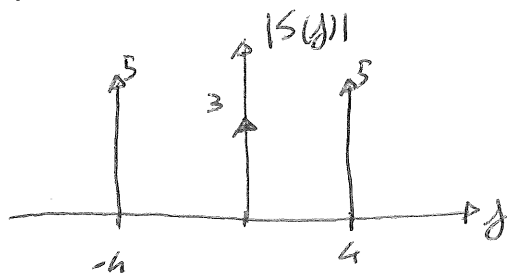
II)  $A \cdot \frac{VP}{VP+FM}$

III)  $P_{tp} = P(tp|m)P(m) + P(tp|s)P(s) = \text{sens} \cdot \text{prev} + (1 - \text{spec}) \cdot (1 - \text{prev}) =$   
 $\text{Spec} = 0,985 \quad \text{sens} = 0,975 \quad \text{Prev} = 0,3\%$   
 $P_{tp} = 1,79\%$

ES.51

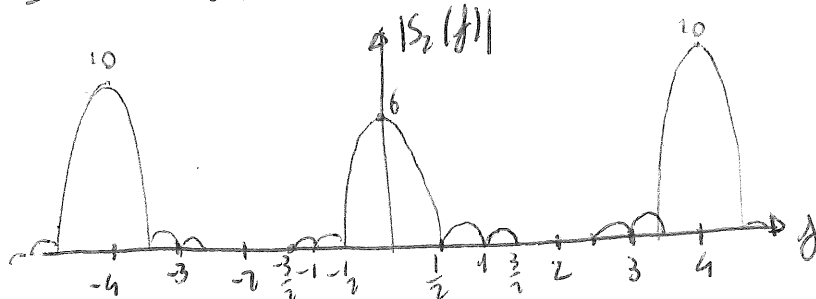
$x_1(t) = 3 + 10 \sin(8\pi t + \frac{\pi}{3})$

$S_1(f) = 3 \delta(f) + 5 e^{j\frac{\pi}{3}} \delta(f-4) + 5 e^{-j\frac{\pi}{3}} \delta(f+4)$



$x_2(t) = x_1(t) \text{rect}(\frac{t}{2}) =$

$= 3 \cdot 2 \text{sinc}(2f) + 10 e^{j\frac{\pi}{3}} \text{sinc}(2(f-4)) + 10 e^{-j\frac{\pi}{3}} \text{sinc}(2(f+4))$



ES. 6

I) A  $f_c = 2 \frac{f_{max}}{m}$   $m = \left\lfloor \frac{f_{max}}{f_{max} - f_{min}} \right\rfloor$

II)  $\frac{M-1}{2TN}$

III) 14 MHz

ES. 7

I) C

II) B 0.572

III) C

IV) C