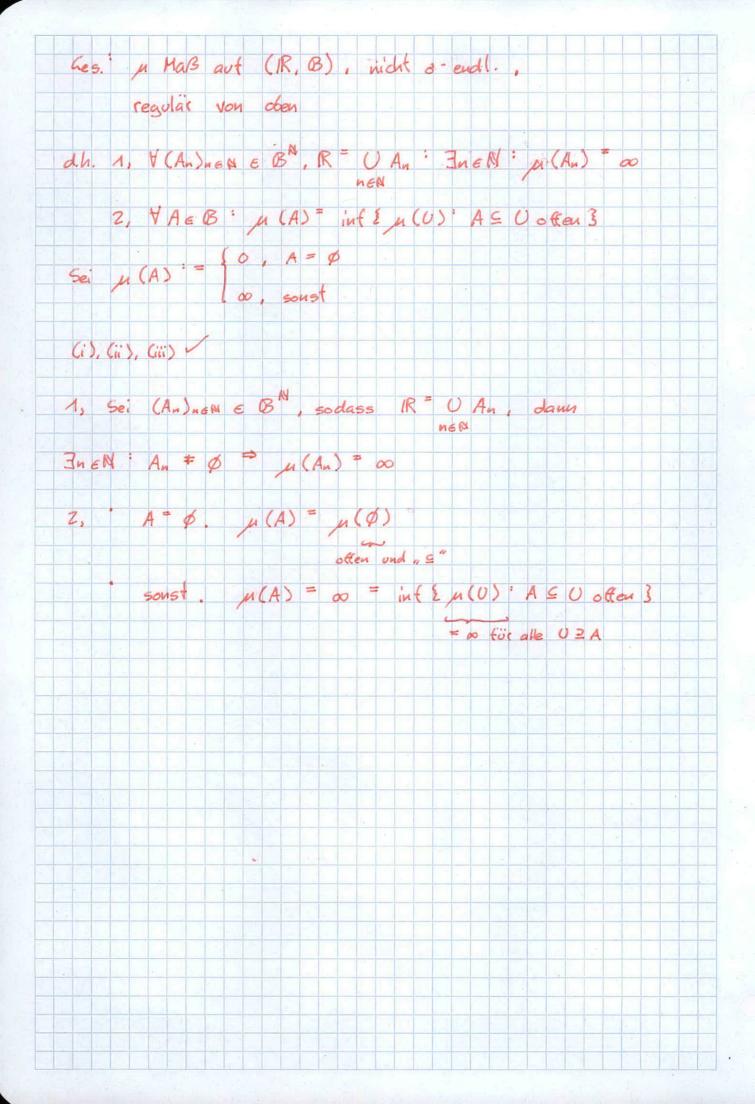
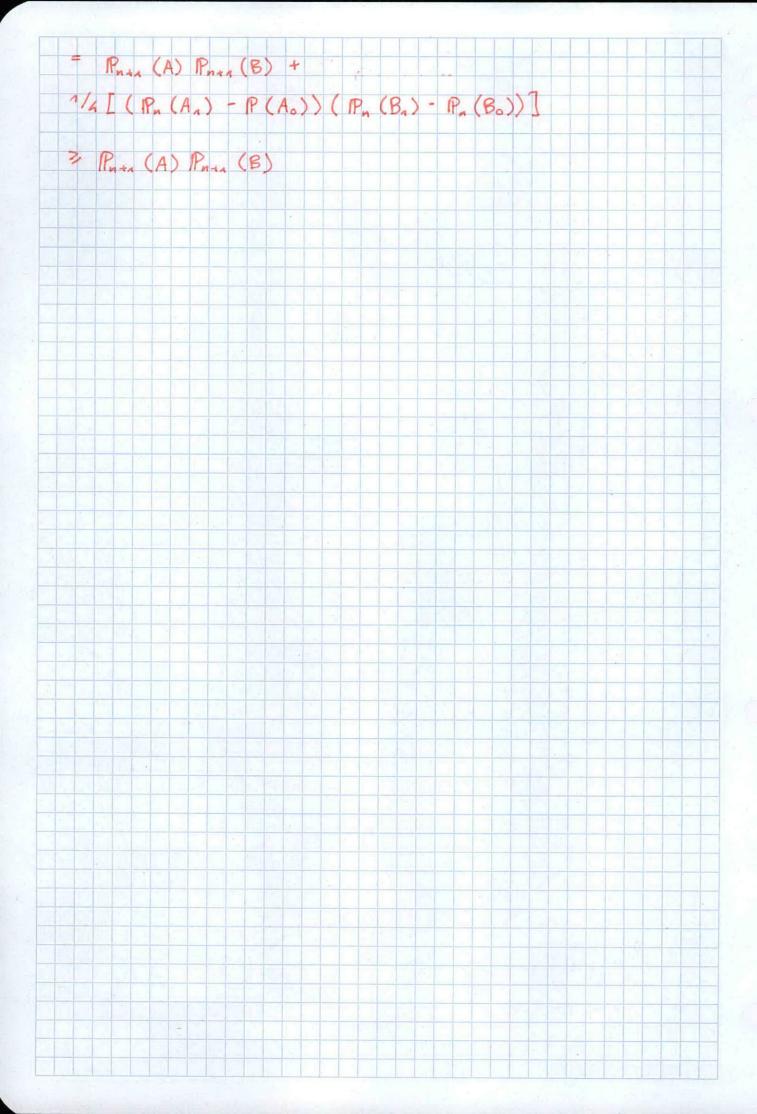
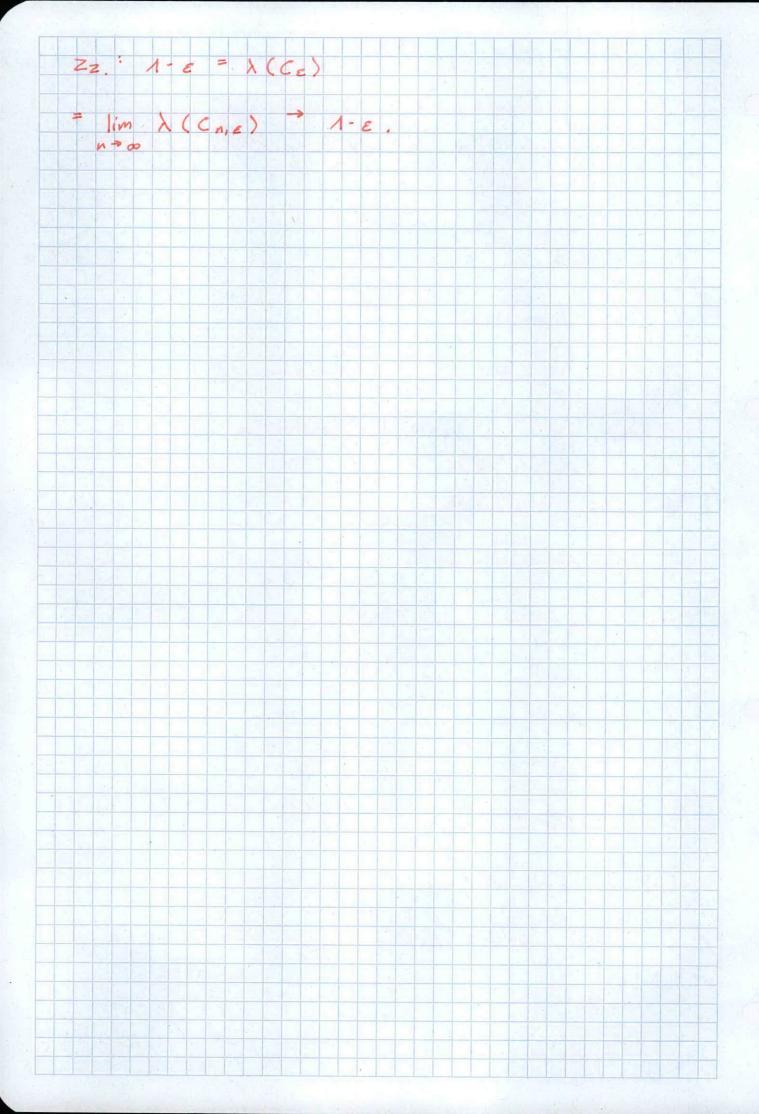
1. Ges. u MaB auf (R, B), & -endl., nicht regular von oben d.h. 1, 3 (An) nem & BN, R = UAn : VNEN: u(An) < 00 2, 3AEB : u(A) + inf & u(U) : A S U often 3. Sei M(A) = | An E1/n in e N 3 | (i) u(Q) = 0 V (ii) YAEB: m(A) > 0 -(iii) Y (An)nen E BN, disjonkt M (Z An) = | Z An n & 1/n ineN3 | = Z | An o & 1/n : n & N 3 | = Z M (An) 1, R= (+0,0] + 5 [1/n] + [(1/n+n, 1/n) + (1,0) $\mu = 0$ $\mu = 1$ $\mu = 0$ $\mu = 0$ 2, Ww. 1 (3-00,0]) = 0, aber inf & u (U)] - 00,07 E U offen] lim u (J-00, 1/n [) = 00 = 00 for alle n & N

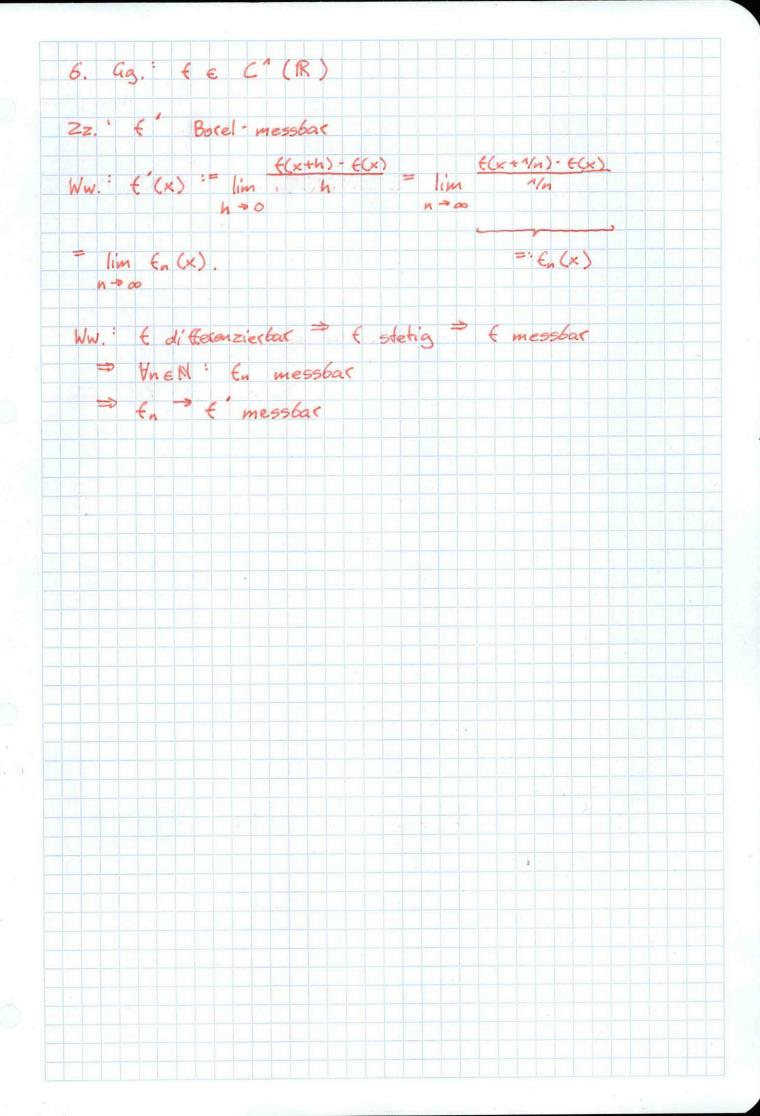


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2. Gg. neN, D. = [7,13, Gn = 2 n,
        VA = Ωn: IPn(A) = 2-1 |A|
A E 12 mondon AxEA X = y = y EA
Zz. : A, B monoton => IPn (A n B) > IPn (A) IPn (B)
1A. n=0
15. Sei A & In, i= 0,1,
A_i = \{(x_1, \dots, x_n) : (x_1, \dots, x_n, i) \in A\}
Beh.: Pn (A) = 2 (Pn- (A0) + Pn- (A1))
A monoton = Ao, A, monoton
          = Ao E A, weil
          Vx & Ao ' y & Ao, A, , wobei
          Vi < n : y = x : , y = 1
Pn (AnB) = 1/2 (Pn (AnB) + Pn (AnB),)
            = 1/2 (Pa (AonBo) + Pa (AnBa))
(IV)
 > 1/2 (Pn (A0) P(B0) + Pn (A1) Pn (B1))
 = 1/4 [(Pn (A0) + Pn (A1))(Pn (B0) + Pn (B1))] +
   1/4 [ Pn (Ao) Pn (Bo) + Pn (An) P (Ba) +
        Pn (Ao) Pn (Ba) - Pn (A) P(Bo)]
= 1/z (Pn (A0) + Pn (A1)) 1/z (Pn (B0) + Pn (B1))
   1/4 [ Pn (A) (Pn (B)) - Pn (Bn)) + Pn (An) (Pn (Bn) - Pn (Bo))]
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3. Gg: E E JO, 1], Co = [0,1], Cnie = " Vereinigung aller Teilintervalle von Cnia, E, ohne das jeweils mittlere, oftene Intervall, der Länge E/3" CE = O CniE Zz. CE abaeschlossen d.h. Zz. ' Yn E N : Cn. e abgeschlossen Das gilt, weil Co = [0,1] abgeschlossen ist, und für Cnie 610B oftene Intervalle , \" werden, bzw. desen abgeschlossene " ", " n Zz. CE nirgends dicht (d.h., Z(a,6), a <6 ' (a,6) E (E) Beh.: Cn. E besteht aus 2" Intervallen der Länge 1A' n = 0 V 15 : $\lambda(I_{n+1}) = \lambda(I_n) \cdot \frac{\lambda}{2} = \frac{\lambda}{3^{n+1}} \cdot \frac{\lambda}{2}$ wobei In ein Teilintervall von Cnie ist. - dicht, weil (Cn, E) n EN monofou ist Zz. : | CE | > \$60 WW: No < | C | < | C E |





7. ag. C = {A & B : x & A = + x & A } Zz. ' C d- Alge. 1, VAEE: A'E C Sei x & A , dann - x & A , weil - x & A , da soust - (+x) = x e A \$ 2, V(An)nen E EN O An E E Sei x & U An, dann 3ke W x & Ax & C. -x E Ax E O An aes. EneN: f(x) = x", e-messbar 3 = 2N * ∀n ∈ 2N. y ∈ A + = ±"√y ∈ €" (A+) $y \in A^{-} \Rightarrow (-^{\prime}(A^{-})) = \emptyset$ Sei n = 12N +1. (]0,1]) =]0,1] & C