| Presa natematria discrete grava Redu Pers Bestandelo<br>RA 112650  |                          |
|--|--------------------------|
| RA 112650  |                          |
| $\sim P / I / I \sim P / I / P \rightarrow () / I$   |                          |
| [~PA(P-P)]V[~PA(P-Q)](Pist)  |                          |
|  | -                        |
| ~P V~Q (MP)  |                          |
| $\sim (P \wedge Q)$ (DM)   |                          |
|  |                          |
| 2·a)1~QV~R   |                          |
| $\frac{2}{2} \xrightarrow{\rho} \xrightarrow{R}$   |                          |
|  |                          |
| 3 A<br>4-P-R (CP/2)  |                          |
| 5~R(SD,1,3)  |                          |
| 6~P(MT, 2,5)   |                          |
| 7 76 40) W/C/A W/ (D/C)  |                          |
| b) 1(R→P)→S 7 (SAP) V (SAU) (DIST<br>2 P V U 8~~ (SAP) V~~ (SAU) (DN   | 10                       |
|  | 4±1<br>MS                |
| $\frac{3}{\sqrt{\sqrt{2}}} \frac{1}{\sqrt{\sqrt{2}}} \frac{1}{\sqrt{2}} 1$ | -9                       |
| 5 (S (P)P, 3,4) 11~(5-2P) RI (10)H   | -                        |
| $6 \leq \Lambda(PVU) \qquad (2,5) \qquad (3,5) \qquad (4,5) \qquad$   |                          |
| 12~5 → U (MP, 10, 11)  | ne manage and global min |
|  | Appendix (Tra)           |
|  | Place Deliver            |
|  | new metalogical (17)     |
|  |                          |
|  |                          |
|  |                          |
|  |                          |
|  |                          |
|  | e Sulp                   |

| 2                                | João  | Robo Per, Parlo        | red bound mine   |
|----------------------------------|---|------------------------|--|
| 3.Q) x2.                         | -8X+7=0                                     |                        | 112.650  |
| -                                |   |                        | 100  |
| A = 1                            | D=64-20=                                    | 36                     |  |
| B = - 8                          | X= 9 L 6                                    | x <sub>1</sub> = 7     |  |
| C= 7                             | 2   | $x_1 = 7$<br>$x_2 = 1$ | tions of the part to the part of the control of the part of the pa |
|                                  |   |                        | 1 Mar 1 1 - 1 1 - 1 1 - 1 1 1 1 1 1 1 1 1 1  |
| * P(x)                           | Labor redo verdad                           | en mos raigs           |  |
| * nay                            | rong de Pas:                                |                        |  |
| La session being the contract of |   |                        |  |
| - FIX 1:                         | Q(x1) = 37 V                                |                        |  |
|                                  | $Q(k_2) = 31 \sqrt{2}$                      |                        | <u> </u>   |
| 7)                               |   |                        |  |
| Portent, -                       | V'e(x)9 comp our                            | co, Velala,            | ala logia  |
| rengre sera V.s                  | em qualque soso.                            | 1                      | , , , , , , , , , , , , , , , , , , ,  |
|                                  |   | >                      |  |
| D) Paro Cal                      | ula o rola lógra                            | fodemps Don um         | contre-ereglo  |
| bon drango                       | cular o ralar lógico<br>X= 11, Temo os reg  | unti!                  |  |
|                                  |   |                        |  |
| <u>(</u> }                       | (14) = 30+71=47 e                           | <u> </u>               |  |
| . D.                             | 1) - 40 - 50 1 1 - 0                        | , E                    |  |
| 113                              | 4) = 121 - 88 + 7 = 0                       | ٧                      |  |
| Patr                             | 0.0   | Yuka' da Par           | 2/5 1  |
| 1 Down                           | P. + Our T                                  | X 9 2 / (X             | icho of a son  |
| Logra de VX                      | , dome neve dano Q1<br>Pex - Q(X) não kho v | monday em              | NO WY ZOWING   |
| Mindre Steel WS                  | •   |                        |  |
|                                  |   |                        |  |
|                                  |   |                        |  |
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| -                                |   |                        |  |
|                                  |   |                        |  |
|                                  |   |                        |  |
|                                  |   |                        |  |

| and the state of t |  |
|--|--|
| (4, a) Um centra-exemple que   | fodemos der e que quevdo   |
| Y. a) Um wontro-exemplo gue<br>X = Y. 3, Teremos que P sera sen<br>rem sempre rerá verdodeiro, ro que<br>P-o Q rera folso.   | pre verdodeira, porén a  |
| nem sempre rera verdoderes, se que   | i mostre que en alguns cues  |
| P- Qreru Lelyo.  | A Topic Control of the Control of th |
|  |  |
| b) P= \y /x/x>2 y  |  |
| V P P P P P P P P P P P P P P P P P P P  |  |
|  | · CANTON CONTRACTOR  |
|  | gow fedro per pertonal   |
|  | four fedre per pertonal<br>R H 1 12 6 50   |
|  |  |
|  |  |
|  | the same with the  |
|  |  |
|  |  |
|  |  |

| (5. 04.4) 2 21 1/4 1) (n 1) 10 (n+1)  |
|---|
| 5.0.1+1,2+2,3++(M-1),n=(n-1),n(n+1)   |
| <b>b</b>  |
| Dase: N=1 (1-1).1.(1+1) = (1-1).1   |
|   |
| 0=0   |
| portanto a igualdado vale pora n=1  |
|   |
| Hipo'tese De · (K-1), K (H+1) = 0,1+1,2+2,3++(K-1).K                                    |
| inducão 1 3   |
|   |
| 11/K-11-1.(K-1)-(K-1)-(K)+1/2+2,3+1.1+1K-1.(K)+1/2(K+0)                                 |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |
| (H-1), K. (B+1) + H) (K+1) = (18 1) 1/4.  |
| 3   |
| 14) (K+1) (K+1) - (K+7) + K.(K+1)   |
| 3   |
| 13. (H-1). (H+1) + (H+1)  |
| 3 / 14 / 19 19 1 3  |
| H ((K+1), ((K-1) +3))   |
| 3 3   |
| $(\kappa_{+1})(\kappa_{+2})$  |
| 3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7   |
|   |
|   |
| Portonto, pelo principio de indugas finita, a expressão o valido para todo natural n>1. |
| e valido para todo natural n > 1.   |
|   |
|   |
|   |
|   |
|   |
| your fedro Peres pertoncelo   |
|   |