28/10/23

Dias Branch and Bound.

Maximo $8x_1 + 5x_2$

$x_1 + x_2 \leq 6$

$9x_1 + 5x_2 \leq 45$

Resolução e resposta $z = 8x_1 + 5x_2$

I $x_1 + x_2 = 6$

II $9x_1 + 5_2 = 45$

$x_1 + x_2 = 6$

$1.0 + x_2 = 6$

$0 + x_2 = 6$

$x_2 = 6 - 0$

$\boxed{x_2 = 6}$

$9x_1 + 5x_2 = 45$

$9.0 + 5x_2 = 45$

$0 + 5x_2 = 45$

$5x_2 = 45 - 0$

$5x_2 = 45$

$x_2 = 45$

$x_1 + x_2 = 6$

$x_1 + 1.0 = 6$

$x_1 + 0 = 6$

$x_1 = 6 - 0$

$\boxed{x_1 = 6}$

$9x_1 + 5x_2 = 45$

$9x_1 + 5.0 = 45$

$9x_1 + 0 = 45$

$9x_1 = 45 - 0$

$9x_1 = 45$

$x_1 = \frac{45}{9}$

$\boxed{x_1 = 5}$

$9 \,|\, 4$

$8 \quad 2{,}25$

10

8

20

20

0

$(-9)\ x_1 + x_2 = 6$

$9x_1 + 5x_2 = 45$

$-9x_1 - 9x_2 = -54$

$9x_1 + 5x_2 = 45$

$-4x_2 = -9$

$x_2 = \frac{-9}{-4}$

$\boxed{x_2 = 2{,}25}$

$15 \,|\, 4$

$12 \quad 3{,}75$

030

28

020

20

0

$(-5)\ x_1 + x_2 = 6$

$9x_1 + 5x_2 = 45$

$-5x - 5x_2 = -30$

$9x_1 + 5x_2 = 45$

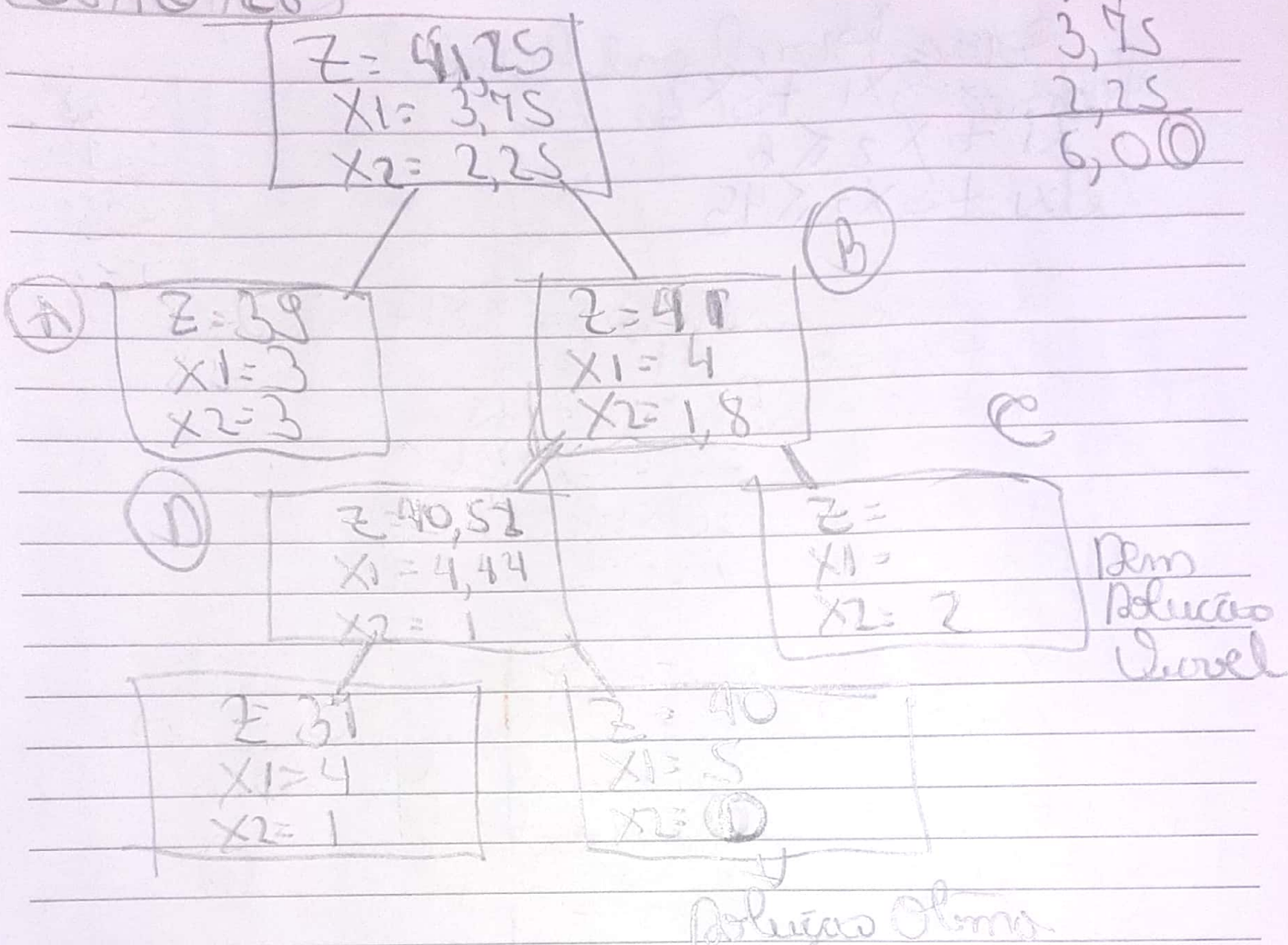
$4x_1 + 0x_2 = 15$

$x_1 = \frac{15}{4}$

$\boxed{x_1 = 3{,}75}$

FORONI

28/10/28



Sem Solução Viável

Solução Ótima

3,75
2,25
6,00

8X1 + 5X2
8.3,75 + 5,2,25

FORON:

28/10/23

(A) $x_1 + x_2 = 6$

$3 + x_2 = 6$

$x_2 = 6 - 3$

$\boxed{x_2 = 3}$

$9 \mid 5$

$5 \mid 18$

40

40

0

(B) $9x_1 + 5x_2 = 45$

$9 \cdot 4 + 5x_2 = 45$

$36 + 5x_2 = 45$

$5x_2 = 45 - 36$

$5x_2 = 9$

$x_2 = \frac{9}{5}$

$\boxed{x_2 = 1,8}$

$35 \mid 9$

$2,2 \quad 3,6$

$0 \quad 60$

54

06

(C) $x_1 + x_2 = 6$

$x_1 + 1,2 = 6$

$x_1 + 2 = 6$

$x_1 = 6 - 2$

$\boxed{x_1 = 4}$

$9x_1 + 5x_2 = 45$

$9x_1 + 5 \cdot 2 = 45$

$9x_1 + 10 = 45$

$9x_1 = 45 - 10$

$9x_1 = 35$

$x_1 = \frac{35}{9}$

$x_1 = 3,66$

Am [illegible]

(D) $x_1 + x_2 = 6$

$x_1 + 1,1 = 6$

$x_1 + 1 = 6$

$x_1 = 6 - 1$

$\boxed{x_1 = 5}$

$9x_1 + 5x_2 = 45$

$9x_1 + 5 \cdot 1 = 45$

$9x_1 + 5 = 45$

$9x_1 = 45 - 5$

$9x_1 = 40$

$x_1 = \frac{40}{9}$

$\boxed{x_1 \approx 4,44}$

$40 \mid 9$

$36 \quad 4,44$

$0 \quad 40$

36

$0 \quad 40$

36

16

FORON:

24/10/25

E

$x_1 + x_2 = 6$

$4 + x_2 = 6$

$x_2 = 2$

$9.1 + 5x_2 = 45$

$9.4 + 5x_2 = 45$

$36 + 5x_2 = 45$

$5x_2 = 45 - 36$

$5x_2 = 9$

$9x_1 + 9x_2 = 45$

$9.1 + 5x_2 = 45$

$9 + 5x_2 = 45$

$5x_2 = 45 - 9$

$5x_2 = 45$

$x_2 = 45/9$

$x_2 = 5$

F

$9.5 + 5x_2 = 45$

$45 + 5x_2 = 45$

$5x_2 = 45 - 45$

$5x_2 = 0$

$x_2 = 0$

$x_1 + x_2 = 6$

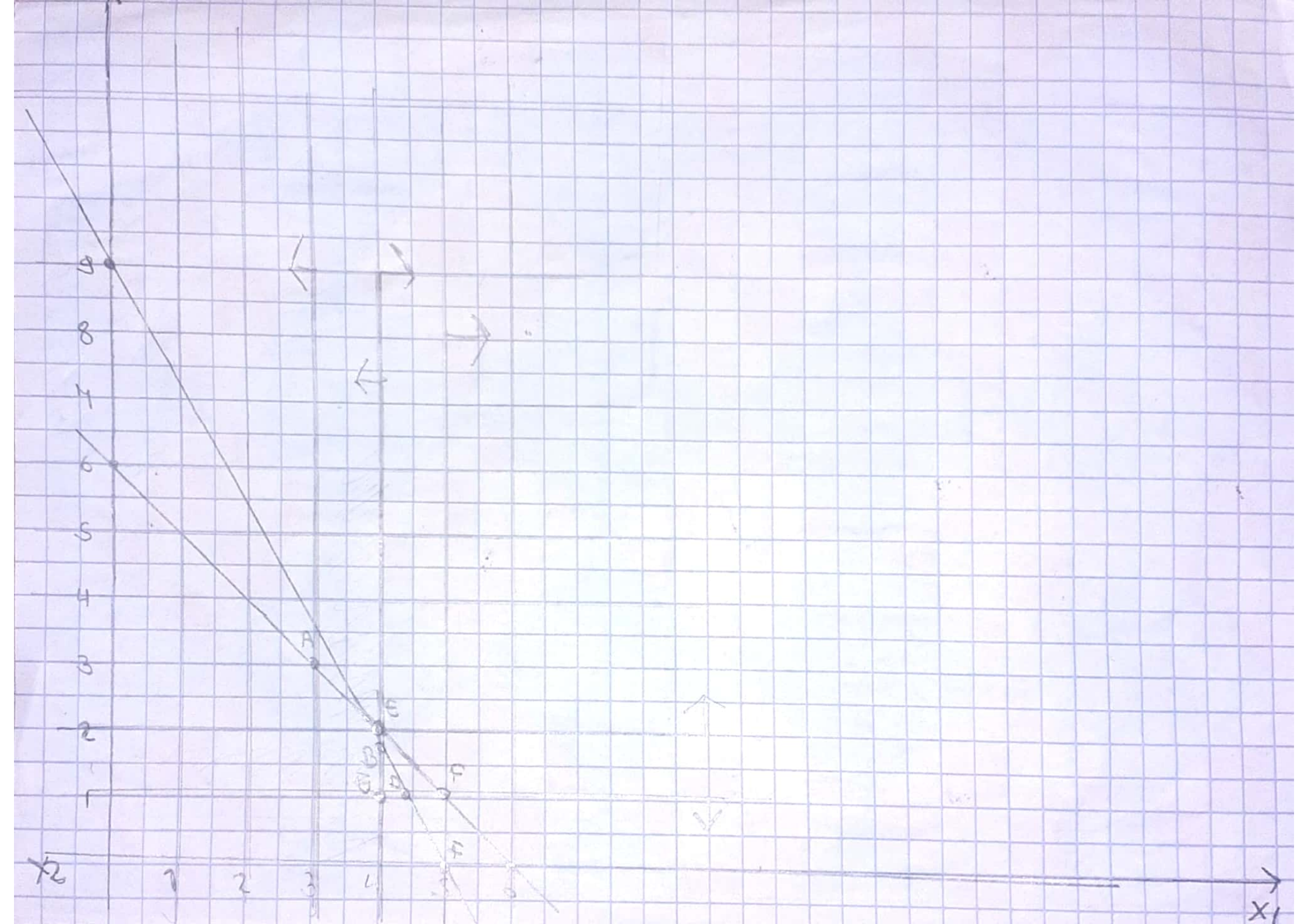
$1.5 + x_2 = 6$

$5 + x_2 = 6$

$x_2 = 6 - 5$

$x_2 = 1$

FORON:



9
8
7
6
5
4
3
2
1
A
E
B
D
F
F
x_2
1
2
3
4
5
6
x_1