

Fase 2: $\max z = 3x + 5y$, original igualada a 0

Base	x	y	M1	E1	E2	VS
x	1	0	0	$-\frac{2}{9}$	$\frac{1}{9}$	$\frac{2}{3}$
y	0	1	0	$-\frac{1}{9}$	$-\frac{9}{9}$	$\frac{4}{3}$
M1	0	0	1	$\frac{1}{9}$	$\frac{7}{9}$	$\frac{5}{3}$
z	-3	-5	0	0	0	0

Gauss Jordan fila

Fila $x \cdot 3 + z$

Base	x	y	M1	E1	E2	VS
$x \cdot 3$	3	0	0	$-\frac{2}{3}$	$\frac{1}{3}$	2
z	-3	-5	0	0	0	0
Nuevo z	0	-5	0	$-\frac{2}{3}$	$\frac{1}{3}$	2

Fila $y \cdot 5 + z$

Base	x	y	M1	E1	E2	VS
$y \cdot 5$	0	5	0	$-\frac{5}{9}$	$-\frac{20}{9}$	$\frac{20}{3}$
z	0	-5	0	$-\frac{2}{3}$	$\frac{1}{3}$	2
Nuevo z	0	0	0	$-\frac{17}{9}$	$-\frac{17}{9}$	$\frac{26}{3}$

$x=0$, esta en la base

$$\frac{17}{9} = 1,22 \quad \frac{17}{9} = 1,88$$

$y=0$, esta en la base

$M1=0$, esta en la base

$$VE = E2$$

E1 Negativo \rightarrow iterar

E2 Negativo \rightarrow iterar

RM

Pivote

Base	X	Y	H1	E1	E2	VS
H1 \rightarrow E2	0	0	$\frac{9}{7}$	$\frac{7}{4}$	1	$\frac{45}{12}$

X	Y	Z
$X = 1 - (\frac{7}{9} \cdot 0) = 0$	$X = 0 - (-\frac{9}{9} \cdot 0) = 0$	$X = 0 - (-\frac{17}{9} \cdot 0) = 0$
$Y = 0 - (\frac{7}{9} \cdot 0) = 0$	$Y = 1 - (-\frac{9}{9} \cdot 0) = 1$	$Y = 0 - (-\frac{17}{9} \cdot 0) = 0$
$H1 = 0 - (\frac{7}{9} \cdot \frac{9}{9}) = 1$	$H1 = 0 - (-\frac{9}{9} \cdot \frac{9}{9}) = 1$	$H1 = 0 - (-\frac{17}{9} \cdot \frac{9}{9}) = \frac{17}{9}$
$E1 = \frac{2}{9} - (\frac{7}{9} \cdot \frac{7}{9}) = 0$	$E1 = -\frac{1}{9} - (-\frac{9}{9} \cdot \frac{7}{9}) = 0$	$E1 = -\frac{17}{9} - (-\frac{17}{9} \cdot \frac{7}{9}) = \frac{3}{9}$
$E2 = \frac{7}{9} - (\frac{7}{9} \cdot 1) = 0$	$E2 = -\frac{9}{9} - (-\frac{9}{9} \cdot 1) = 0$	$E2 = \frac{17}{9} - (-\frac{17}{9} \cdot 1) = 0$
$VS = \frac{2}{3} - (\frac{7}{9} \cdot \frac{45}{12}) = 3$	$VS = \frac{9}{3} - (-\frac{9}{9} \cdot \frac{45}{12}) = 3$	$VS = \frac{26}{3} - (-\frac{17}{9} \cdot \frac{45}{12}) = \frac{63}{9}$

Base	X	Y	H1	E1	E2	VS
X	1	0	$-\frac{1}{9}$	$-\frac{7}{9}$	0	$\frac{7}{9}$
Y	0	1	1	0	0	3
E2	0	0	$\frac{9}{7}$	$\frac{7}{9}$	1	$\frac{45}{12}$
Z	0	0	$\frac{17}{9}$	$-\frac{3}{9}$	0	$\frac{63}{9}$

$X=0$ esta en la base

$Y=0$ esta en la base

H1 positivo

E1 negativo

$E2=0$, esta en la base

$$VE = E1 \quad \text{RM} \quad \frac{\frac{45}{12}}{\frac{7}{9}}$$

$$VS = E2$$

Pivote

Base	X	Y	M1	E1	E2	VS
E2 \rightarrow E1	0	0	9	1	7	15

X	Y	Z
$X = 1 - (-\frac{1}{7} \cdot 0) = 0$	$X = 0 - (0 \cdot 0) = 0$	$X = 0 - (-\frac{3}{7} \cdot 0) = 0$
$Y = 0 - (-\frac{1}{7} \cdot 0) = 0$	$Y = 1 - (0 \cdot 0) = 1$	$Y = 0 - (-\frac{3}{7} \cdot 0) = 0$
$M1 = \frac{1}{7} - (-\frac{1}{7} \cdot 9) = 2$	$M1 = 1 - (0 \cdot 9) = 1$	$M1 = \frac{17}{7} - (-\frac{3}{7} \cdot 9) = 11$
$E1 = \frac{1}{7} - (-\frac{1}{7} \cdot 1) = 0$	$E1 = 0 - (0 \cdot 1) = 0$	$E1 = -\frac{3}{7} - (-\frac{3}{7} \cdot 1) = 0$
$E2 = 0 - (-\frac{1}{7} \cdot 7) = 1$	$E2 = 0 - (0 \cdot 7) = 0$	$E2 = 0 - (-\frac{3}{7} \cdot 9) = 3$
$VS = \frac{1}{7} - (-\frac{1}{7} \cdot 15) = 4$	$VS = 3 - (0 \cdot 15) = 3$	$VS = \frac{63}{7} - (-\frac{3}{7} \cdot 15) = 27$

Base	X	Y	M1	E1	E2	VS
X	1	0	2	0	1	4
Y	0	1	1	0	0	3
E1	0	0	9	1	7	15
Z	0	0	11	0	3	27

$X=0$ esta en la base

$Y=0$ esta en la base

M1 positivo, no itera

E1 positivo no itera

E2 positivo no itera

Punto (4,3) max $Z = 3x + 5y$
 $= 3 \cdot 4 + 5 \cdot 3$
 $= \boxed{27}$