

max Z = 4.0X1 + 6.0X2 + 7.0X3 + 5.0X4 + 9.0X5

S.A.R

1.0X1 + 3.0X2 + 4.0X3 + 5.0X4 + 7.0X5 >= 20.0

0.0X1 + 6.0X2 + 7.0X3 + 8.0X4 + 0.0X5 >= 15.0

7.0X1 + 8.0X2 + 0.0X3 + 7.0X4 + 9.0X5 >= 30.0

7.0X1 + 2.0X2 + 1.0X3 + 0.0X4 + 8.0X5 >= 20.0

1.0X1 + 3.0X2 + 4.0X3 + 5.0X4 + 7.0X5 - 1X6 + 1X7 + 0X8 + 0X9 + 0X10 + 0X11 + 0X12 + 0X13 = 20.0

0.0X1 + 6.0X2 + 7.0X3 + 8.0X4 + 0.0X5 + 0X6 + 0X7 - 1X8 + 1X9 + 0X10 + 0X11 + 0X12 + 0X13 = 15.0

7.0X1 + 8.0X2 + 0.0X3 + 7.0X4 + 9.0X5 + 0X6 + 0X7 + 0X8 + 0X9 - 1X10 + 1X11 + 0X12 + 0X13 = 30.0

7.0X1 + 2.0X2 + 1.0X3 + 0.0X4 + 8.0X5 + 0X6 + 0X7 + 0X8 + 0X9 + 0X10 + 0X11 - 1X12 + 1X13 = 20.0

Z - 4.0X1 - 6.0X2 - 7.0X3 - 5.0X4 - 9.0X5 + 0X6 + 1.0MX7 + 0X8 + 1.0MX9 + 0X10 + 1.0MX11 + 0X12 + 1.0MX13 = 0

Variables de Holgura: ['X6', 'X12', 'X10', 'X8']

Variables Artificiales: ['X11', 'X7', 'X9', 'X13']

Tiene Soluciones Ilimitadas.

X12 = 230/21

X3 = 30/7

X6 = 430/21

X5 = 10/3

X8 = 15

Z' = 60

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X	1	3	4	5	7	-1	1	0	0	0	0	0	0	20
X	0	6	7	8	0	0	0	-1	1	0	0	0	0	15
X	7	8	0	7	9	0	0	0	0	-1	1	0	0	30
X	7	2	1	0	8	0	0	0	0	0	0	-1	1	20
Z	-4	-6	-7	-5	-9	0	M	0	M	0	M	0	M	0

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X7	1	3	4	5	7	-1	1	0	0	0	0	0	0	20
X9	0	6	7	8	0	0	0	-1	1	0	0	0	0	15
X11	7	8	0	7	9	0	0	0	0	-1	1	0	0	30
X13	7	2	1	0	8	0	0	0	0	0	0	-1	1	20
Z	-15M - 4	-19M - 6	-12M - 7	-20M - 5	-24M - 9	M	0	M	0	M	0	M	0	-85M

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X7	-41/8	5/4	25/8	5	0	-1	1	0	0	0	0	7/8	-7/8	5/2
X9	0	6	7	8	0	0	0	-1	1	0	0	0	0	15
X11	-7/8	23/4	-9/8	7	0	0	0	0	0	-1	1	9/8	-9/8	15/2
X5	7/8	1/4	1/8	0	1	0	0	0	0	0	0	-1/8	1/8	5/2
Z	6M + 31/8	-13M - 15/4	-9M - 47/8	-20M - 5	0	M	0	M	0	M	0	-2M - 9/8	3M + 9/8	-25M + 45/2

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X4	-41/40	1/4	5/8	1	0	-1/5	1/5	0	0	0	0	7/40	-7/40	1/2
X9	41/5	4	2	0	0	8/5	-8/5	-1	1	0	0	-7/5	7/5	11
X11	63/10	4	-11/2	0	0	7/5	-7/5	0	0	-1	1	-1/10	1/10	4
X5	7/8	1/4	1/8	0	1	0	0	0	0	0	0	-1/8	1/8	5/2
Z	-29M/2 - 5/4	-8M - 5/2	7M/2 - 11/4	0	0	-3M - 1	4M + 1	M	0	M	0	3M/2 - 1/4	-M/2 + 1/4	-15M + 25

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X4	0	227/252	-17/63	1	0	1/36	-1/36	0	0	-41/252	41/252	10/63	-10/63	145/126
X9	0	-76/63	577/63	0	0	-2/9	2/9	-1	1	82/63	-82/63	-80/63	80/63	365/63
X1	1	40/63	-55/63	0	0	2/9	-2/9	0	0	-10/63	10/63	-1/63	1/63	40/63
X5	0	-11/36	8/9	0	1	-7/36	7/36	0	0	5/36	-5/36	-1/9	1/9	35/18
Z	0	76M/63 - 215/126	-577M/63 - 242/63	0	0	2M/9 - 13/18	7M/9 + 13/18	M	0	-82M/63 - 25/126	145M/63 + 25/126	80M/63 - 17/63	-17M/63 + 17/63	-365M/63 + 1625/63

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X4	0	122/141	0	1	0	10/471	-10/471	-17/577	17/577	-24/193	24/193	70/577	-70/577	781/591
X3	0	-76/577	1	0	0	-14/577	14/577	-63/577	63/577	82/577	-82/577	-80/577	80/577	365/577
X1	1	300/577	0	0	0	116/577	-116/577	-55/577	55/577	-20/577	20/577	-79/577	79/577	685/577
X5	0	-157/833	0	0	1	-116/671	116/671	56/577	-56/577	12/955	-12/955	7/577	-7/577	991/717
Z	0	-1834/829	0	0	0	-645/791	M + 645/791	-242/577	M + 242/577	311/895	M - 311/895	-463/577	M + 463/577	16285/577

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X2	0	1	0	141/122	0	4/163	-4/163	-19/558	19/558	-24/167	24/167	53/378	-53/378	1483/971
X3	0	0	1	123/808	0	-11/523	11/523	-74/651	74/651	17/138	-17/138	-53/441	53/441	667/800
X1	1	0	0	-533/887	0	45/239	-45/239	-43/554	43/554	27/674	-27/674	-124/591	124/591	182/463
X5	0	0	0	22/101	1	-53/315	53/315	30/331	-30/331	-7/482	7/482	31/804	-31/804	167/100
Z	0	0	0	1777/695	0	-427/561	M + 427/561	-47/95	M + 47/95	13/440	M - 13/440	-222/451	M + 222/451	2623/83

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X2	-49/376	1	0	58/47	0	0	0	-9/376	9/376	-7/47	7/47	63/376	-63/376	555/376
X3	21/188	0	1	4/47	0	0	0	-23/188	23/188	6/47	-6/47	-27/188	27/188	165/188
X6	1997/376	0	0	-150/47	0	1	-1	-155/376	155/376	10/47	-10/47	-419/376	419/376	785/376
X5	42/47	0	0	-15/47	1	0	0	1/47	-1/47	1/47	-1/47	-7/47	7/47	95/47
Z	190/47	0	0	6/47	0	0	M	-38/47	M + 38/47	9/47	M - 9/47	-63/47	M + 63/47	1560/47

V.B	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	bi
X12	-7/9	376/63	0	464/63	0	0	0	-1/7	1/7	-8/9	8/9	1	-1	185/21
X3	0	6/7	1	8/7	0	0	0	-1/7	1/7	0	0	0	0	15/7
X6	40/9	419/63	0	316/63	0	1	-1	-4/7	4/7	-7/9	7/9	0	0	250/21
X5	7/9	8/9	0	7/9	1	0	0	0	0	-1/9	1/9	0	0	10/3
Z	3	8	0	10	0	0	M	-1	M + 1	-1	M + 1	0	M	45

Tiene Soluciones Ilimitadas.

X12 = 230/21

$X3 = 30/7$

$X6 = 430/21$

$X5 = 10/3$

$X8 = 15$

$Z' = 60$