Execirse 4

1- Min $Z = 3X_1 + 8X_2 + 4X_3$

Subject to

$X_1 + X_2 \geq 8$

$2X_1 - 3X_2 \leq 0$

$X_2 \geq 9$

$X_1 \geq 0, X_2 \geq 0$

The standard form

Min $Z = 3X_1 + 8X_2 + 4X_3^+ - 4X_3^-$

Subject to

$X_1 + X_2 - S_1 = 8$

$2X_1 - 3X_2 + S_2 = 0$

$X_2 - S_3 = 9$

$X_1 \geq 0, X_2 \geq 0, X_3^+ \geq 0, X_3^- \geq 0, S_1 \geq 0, S_2 \geq 0, S_3 \geq 0$

2- Max $Z = 5X_1 + 4X_2$

Subject to

$6X_1 + 4X_2 \leq 24$

$X_1 + 2X_2 \leq 6$

$X_1 \geq 0, X_2 \geq 0$

The standard form

Max $Z = 5X_1 + 4X_2$

Subject to

$6X_1 + 4X_2 + S_1 = 24$

$X_1 + 2X_2 + S_2 = 6$

$X_1 \geq 0, X_2 \geq 0, S_1 \geq 0, S_2 \geq 0$

Basic Variables	Basic Solution	Feasibility Status	Objective Value
X_1, X_2	3,1.5	Feasible	21
X_1, S_1	6,-12	Infeasible	_____
X_1, S_2	4,0	Feasible	20
X_2, S_1	3,12	Feasible	15
X_2, S_2	6,-6	Infeasible	_____
S_1, S_2	24,6	Feasible	0