

AQ Dec: 11, 2023 (Review)

TOMAS SPERO - tvs38@scarletmail.rutgers.edu

### Algebraic Method

$$\text{Max: } z = x_1 + x_2 + x_3$$

$$\text{ST: } 2x_1 + 3x_2 + 4x_3 = 9 \quad x_1, x_2, x_3 \geq 0$$

1 constraint, 3 variables  $\Rightarrow$  2 zeroes.

<u>basic:</u>	$x_1$	$x_2$	$x_3$	$F_j^*$	$Z$
$\{x_1\}$	$\frac{9}{2}$	0	0	✓	$\frac{9}{2}$
$\{x_2\}$	0	3	0	✓	3
$\{x_3\}$	0	0	$\frac{9}{4}$	✓	$\frac{9}{4}$

$$\text{Optimal soln: } \left( \frac{9}{2}, 0, 0 \right)$$