Maximize $Z = 12X_1 + 16X_2$

Subject to

$10X_1 + 20X_2 \leq 120$

$8X_1 + 8X_2 \leq 80$

and x_1 and $x_2 \geq 0$

Solution:
$X_1 = 8$
$X_2 = 2$
Max(Z) = 128

Maximize $Z = 5x_1 + 7x_2$
Subject to the constraints

$2x_1 + 3x_2 \leq 13$
$3x_1 + 2x_2 \leq 12$
and $x_1, x_2 \geq 0$

Solution:
$X_1 = 2$
$X_2 = 3$
Max(Z) = 31

Maximize $Z = 3x_1 + 2x_2 + 5X_3$
Subject to the constraints

$X_1 + 2x_2 + x_3 \leq 430$
$3x_1 + 2x_3 \leq 460$
$X_1 + 4x_3 \leq 420$
and $x_1, x_2 \geq 0$

Solution:
$X_1 = 100$
$X_2 = 125$
$X_3 = 80$
Max(Z) = 950