Maximize $z = 2x_1 + 3x_2$ subject to
$3x_1 + x_2 \leq 6$
$x_1 + x_2 \leq 4$
$x_1 + 2x_2 \leq 6$
$x_1, x_2 \geq 0$

(Find the values of $x_1$ and $x_2$ in the feasible set at which $z$ attains its maximum, and find what that maximum value is.)
Consider the linear programming problem
Maximize $z = 3x_1 + 2x_2$ subject to
$2x_1 - x_2 \leq 6$
$2x_1 + x_2 \leq 10$
$x_1, x_2 \geq 0$

(a) Transform this problem to a problem in canonical form.

(b) For each extreme point of the new problem, identify the basic variables.

(c) Solve the problem.