MA 162
Quiz 5

Name _____

October 9th, 2014

1. Solve the linear programming problem by the simplex method.

$$\begin{aligned} \text{Maximize } & P = 5x + 3y \\ \text{subject to } & x + 2y \le 80 \\ & 3x + 4y \le 90 \\ & x \ge 0, y \ge 0 \end{aligned}$$

	x	y	u	v	P	RHS
	1	2	1	0	0	80
pivot row →	(3)	4	0	1	0	90
	−5	−3	0	0	1	0

↑ pivot column

$\frac{80}{1} > \frac{90}{3}$

$\frac{1}{3}R_2 \rightarrow$

	x	y	u	v	P	RHS
	1	2	1	0	0	80
	1	4/3	0	1/3	0	30
	−5	−3	0	0	1	0

$R_1 - R_2 \rightarrow$

$R_3 + 5R_1$

	x	y	u	v	P	RHS
	0	2/3	1	−1/3	0	50
	1	4/3	0	1/3	0	30
	0	11/3	0	5/3	0	150

$P = 150$, $(30, 0)$