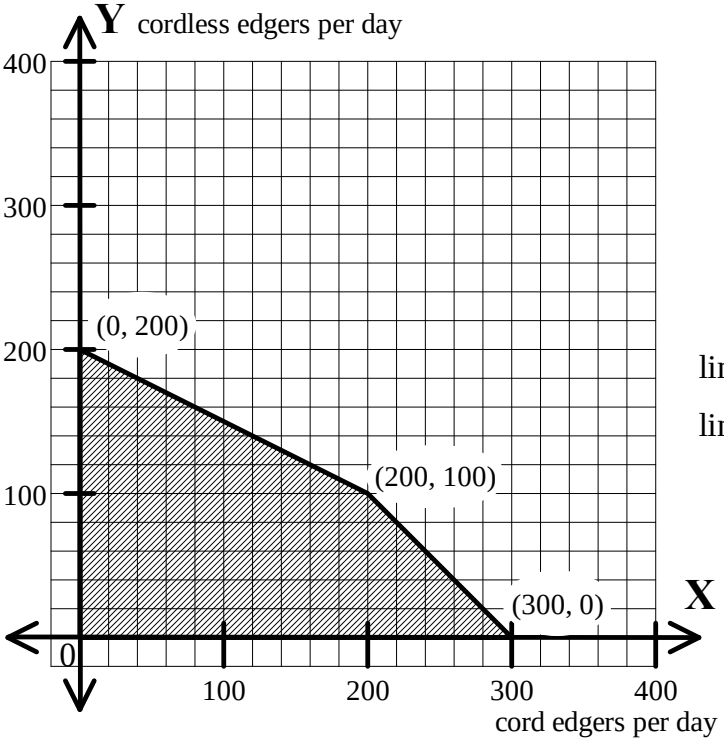
Algebra II Worksheet #5 Unit 4 selected solutions

Solve the following linear programming problem. Show all of your work neatly organized.

3. A company manufactures two types of lawn edgers, one of which is cordless. The 'cord' edger requires a total of two hours of labor to make. The 'cordless' edger requires a total of four hours of labor to make. The company has a total of 800 hours of labor available for manufacturing per day. The packing department can pack and ship a total of 300 edgers per day. If the profit on each 'cord' edger is $15, and the profit on each 'cordless' edger is $18, then how many edgers of each type should the produce per day in order to maximize their profit?



	# per day	labor hours	profit dollars
with cord	x	2x	15x
cordless	y	4y	18y

limitation: ship max 300 per day **$x + y \leq 300$**

limitation: labor 800 hours per day **$2x + 4y \leq 800$**

Objective Function **$x \geq 0$**

$P = 15x + 18y$ **$y \geq 0$**

at (0, 200), P = $3600

at (200, 100), P = $4800

at (300, 0), P = $4500

They should make 200 cord edgers and 100 cordless edgers per day.