

Math 354, Section 04
Linear Optimization
Quiz

Instructions: You have 40 minutes to complete the quiz. There are seven questions worth a total of eighteen points. Partial credit will be given for progress toward correct solutions where relevant. You may not use any books, notes, calculators, or other electronic devices.

Name: _____

RUID: _____

Question	Points	Score
1	3	
2	3	
3	3	
4	3	
5	2	
6	4	
Total:	18	

3. [3pts.] Find the optimal number of cars and vans. Justify your answer.
4. [3pts.] Transform your set of equations from question (2) into canonical form. Write this down both as a system of equations and in matrix notation.

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5. [2pts.] What are the values of the slack variables from problem (4) at the optimal solution you found in problem (3)? What does this mean physically?
6. [4pts.] Suppose the company acquires a new set of vans capable of transporting ten people at the same fuel cost. What combination of cars and vans results in the maximum number of people being transported now? In this situation, if you were running the taxi company, what would you actually choose to do?