

Name: \_\_\_\_\_

Task Master: \_\_\_\_\_ Cynic: \_\_\_\_\_ Recorder: \_\_\_\_\_

MTH 254

## OPTIMIZATION

Spring 2015

*Working in small groups (3 or 4 people), solve as many of the problems below as possible. Try to resolve questions within the group before asking for help. Each group member should then write up the solutions in their own words; Show your work! Full credit will only be given if your answer is supported by calculations and/or explanations as appropriate.*

1. Find the maximum and minimum values of  $4x - 3y$  on the disk of radius 5 centered at the origin, that is, on the region  $\{x^2 + y^2 \leq 25\}$ .