

Math 1313 Online

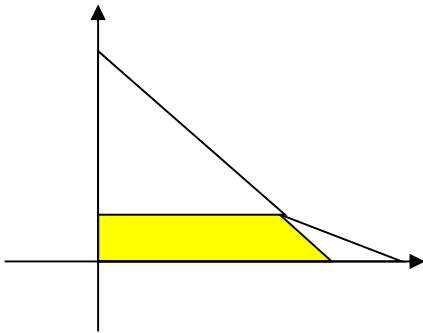
Week 2

Popper 3(Monday's Lecture)

Instructions

- Homework will NOT be accepted through email or in person. Poppers must be submitted through CourseWare. BEFORE the deadline.
 - Submit the completed assignment at <http://www.casa.uh.edu> under "EMCF" and choose Popper 3.
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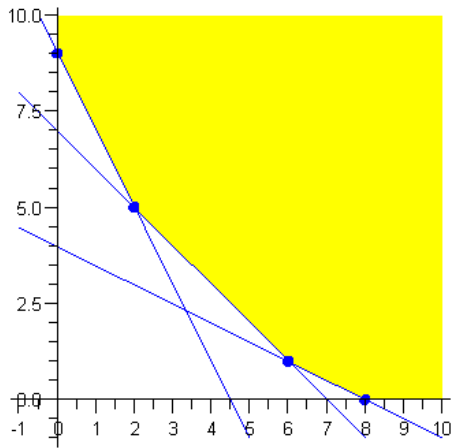
1. The following graph represents a system of linear inequalities.



How many corner points does the following feasible set have?

- a. 3
 - b. 5
 - c. 4
 - d. 6
2. Do not ask on the discussion board, what was the answer to question 2 from Monday's lecture, so mark the same answer according to the video?

3. Use the feasible set shown to determine which corner point minimizes the objective function $C = 15x + 41y$.



- a. (0,0)
 b. (2,5)
 c. (6,1)
 d. (8,0)
4. Do not ask on the discussion board, what was the answer to question 4 from Monday's lecture, so mark the same answer according to the video?
5. A certain academic department at a local university will conduct a research project. The department will need to hire graduate research assistants and professional researchers. Each graduate research assistant will need to work 26 hours per week on fieldwork and 14 hours per week at the university's research center. Each professional researcher will need to work 12 hours per week on fieldwork and 28 hours per week at the university's research center. The minimum number of hours needed per week for fieldwork is 158 and the minimum number of hours needed per week at the research center is 130. Each research assistant will be paid \$266 per week and each professional researcher will be paid \$452 per week. Let x denote the number of graduate research assistants hired and let y denote the number of professional researcher hired. The department wants to minimize cost. Give a constraint of the problem.
- a. $26x + 14y \geq 158$
 b. $26x + 12y \geq 158$
 c. $28x + 14y \leq 30$
 d. $28x + 14y \geq 30$