ECO 610
Problem Set #4
Fall 2019

Instructions: This is a team assignment, so turn in one paper per team. Due 11/19/19.

1. (10 pts.) Suppose that the 117 existing alligator farmers in the U.S. are able form an agricultural cooperative and effectively monopolize the market for alligator skins and meat. Your boss Ralph wonders what that is going to do to alligator prices in the short run and in the long run. He asks you to conduct a Porter's Five Forces analysis of the alligator market, and then predict and explain the trajectory of prices over the next 5-10 years.

2. (20 pts.) *Lexington Herald-Leader*: "Flourishing hemp industry bringing jobs to Kentucky." *Los Angeles Times*: "As Tobacco Sales Dry Up, Kentucky Farmers Look to State's 'Original Crop'—Hemp."
   Information to use in your analysis: Hemp grain is currently selling for anywhere between $0.60-$0.65 per pound, and on average, a typical hemp farmer gets about 1000 lbs. of hemp grain per acre. After taking into account all economic costs, which can range from $300 to $350, farmers can currently make economic profits of around $250 to $300 per acre. In 2018 approximately 80,000 acres of hemp were planted in the U.S., i.e. 80 million pounds of hemp were produced. A typical hemp farmer in Kentucky devoted 60 acres to hemp production.
   Now for the question:
   a) In the attached diagrams illustrate the current conditions in the U.S. hemp market and explain how the price of hemp is determined. Also illustrate and explain the situation facing a typical Kentucky hemp farmer. Sketch in the farmer's ATC and MC curves, and show the farmer's optimal output and economic profits.
   b) What do you think will happen over time? Do you expect these rosy conditions to last? Illustrate and explain the changes you think will occur over the next five years. What will happen to the price of hemp? The number of hemp farmers? The economic profitability of hemp farming? Illustrate in your diagrams and link your verbal explanation to your diagrams.

Teams:

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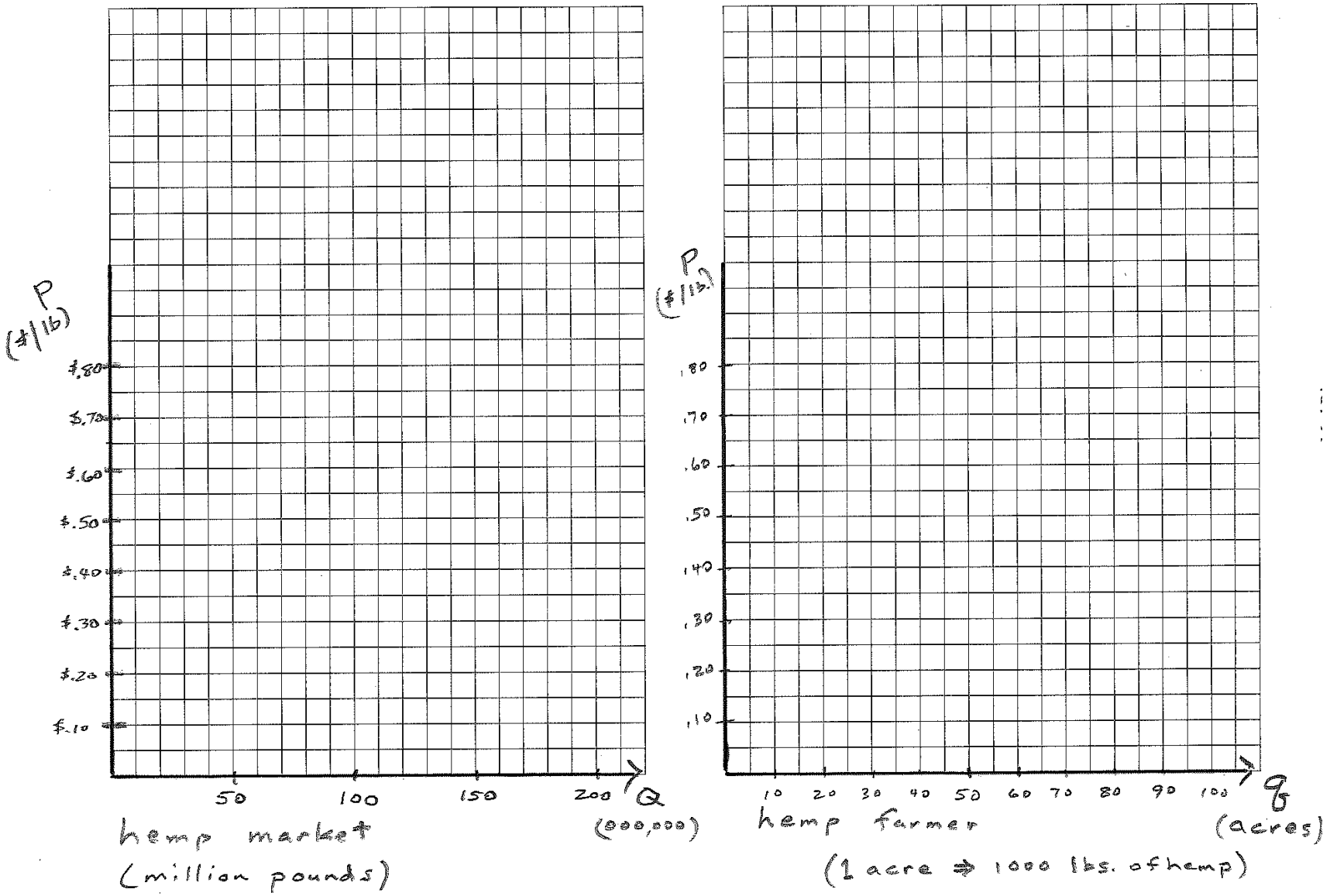
P
($/lb)
$.80
$.70
$.60
$.50
$.40
$.30
$.20
$.10
50
100
150
200
Q
(000,000)
hemp market
(million pounds)
P
($/lb)
.80
.70
.60
.50
.40
.30
.20
.10
10
20
30
40
50
60
70
80
90
100
Q
(acres)
hemp farmer
(1 acre ⇒ 1000 lbs. of hemp)