

Problem Set 10

On what and how to submit

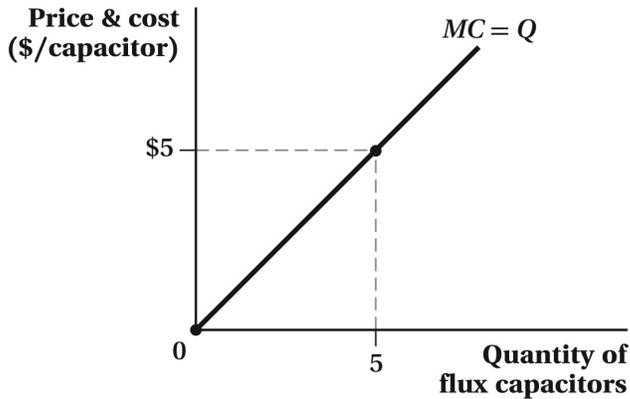
- For this and all future problem sets, questions are from the “Problems” section of the questions at the end of the chapter.
- Due before Lecture 12.
- Name the file “ps10_[lastname].pdf”. For example, my file would be “ps10_brooks.pdf”.
- Turn in via this [google survey](#).
- Make sure your name is at the top of the submission.
- You do not need to type your submission. Any **legible** submission in pdf format is ok. For example, you can write the problem set with hand-drawn graphs, take a picture, make a pdf, and submit the pdf.

1. GLS Chapter 8, Question 3

	Q	TR	FC	VC	TC	profit	MR	MC
	0	0	15	0	15	-15	.	.
	1	50	15	30	45	5	50	30
(a)	2	100	15	65	80	20	50	35
	3	150	15	107	122	28	50	42
	4	200	15	157	172	28	50	50
	5	250	15	217	232	18	50	60
	6	300	15	289	304	-4	50	72

- (b) maximizing total revenue: produce 6
- (c) quantity of beeswax to maximize profits: 4
- (d) MR and MC at profit maximizing output? they are equal
- (e) if fixed cost increases to \$30: optimal unchanged in the short run – no change to marginal costs
- (f) if marginal cost increases by \$8/unit of output? production should decline, since the firm should set $MR = MC$, and MC just increased for each additional unit.

2. GLS Chapter 8, Question 11



(a)

(b) profit-maximizing quantity

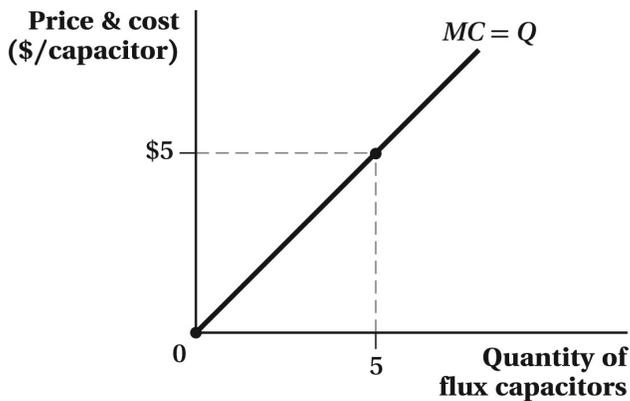
Marty maximizes profits where $P = MC$. Because Marty produces in a perfectly competitive environment, $P = MR$. If capacitors sell for \$2, then $P = MR = 2$, and Marty maximizes profits where $2 = MC$, or where he produces 2 units (see figure above).

(c) profit maximizing quantity at P of 3, 4, and 5

A similar logic chain gives us profit maximizing output at 3, 4 and 5 for prices 3, 4, and 5 respectively.

(d) supply curve

The supply curve is MC , where $MR \geq MC$.



(e) compare the two diagrams

They are the same!

3. Economies of scale or scope

- (a) Name some activity in your life that benefits from economies of scale. Explain why, referring to the definition of economies of scale.
- (b) Describe an invention that has increased economies of scale or scope. Explain why this is true, using the definition of economies of scale.

We accept any logically argued answer here.