

EE211 Principles of Microeconomics | Problem Set on Production and Costs in the Short Run

Instruction: Attempt all questions. Submit by Tuesday 20 November 2018, 9.45 am.

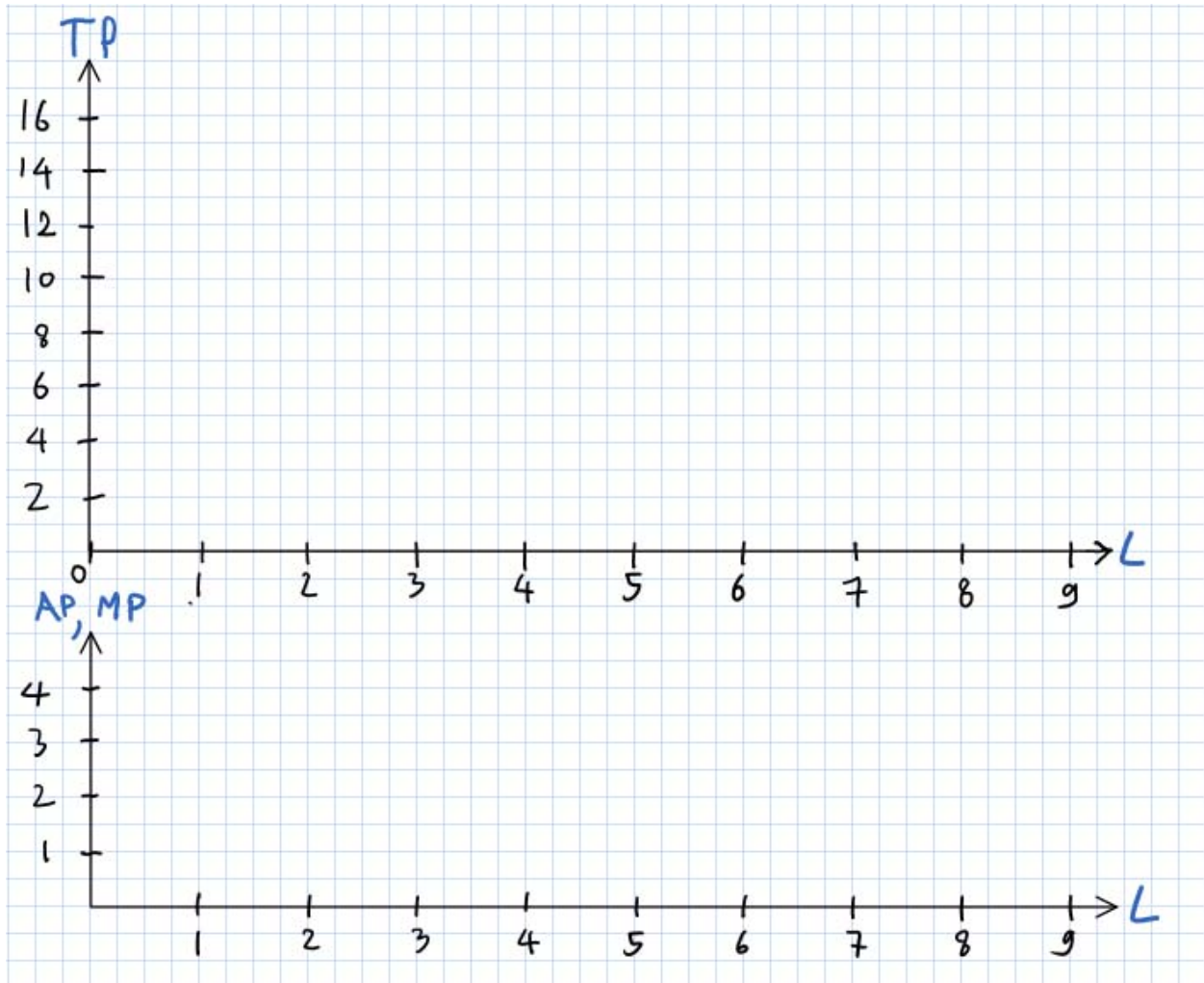
On Production with one variable input.

Land	1	1	1	1	1	1	1	1	1	1
Labor	0	1	2	3	4	5	6	7	8	9
TP or Q	0	2	5	9	12	14	15	15	14	12
AP_L										
MP_L										

Note: the number in the table above refer to physical quantities rather than monetary values

From the table above,

- (a) Find the AP_L and the MP_L of labor
- (b) Plot the TP, the AP_L , and the MP_L of labor curves.



(c) Explain the shape of the AP_L and MP_L curves IN TERMS OF the shape of the TP curve. (i.e., when you try to explain AP_L and MP_L , you must link each of them with the TP curve as both of them actually derive from the TP curve.)

(d) In term of “labor” and “land,” what does the law of diminishing returns state?

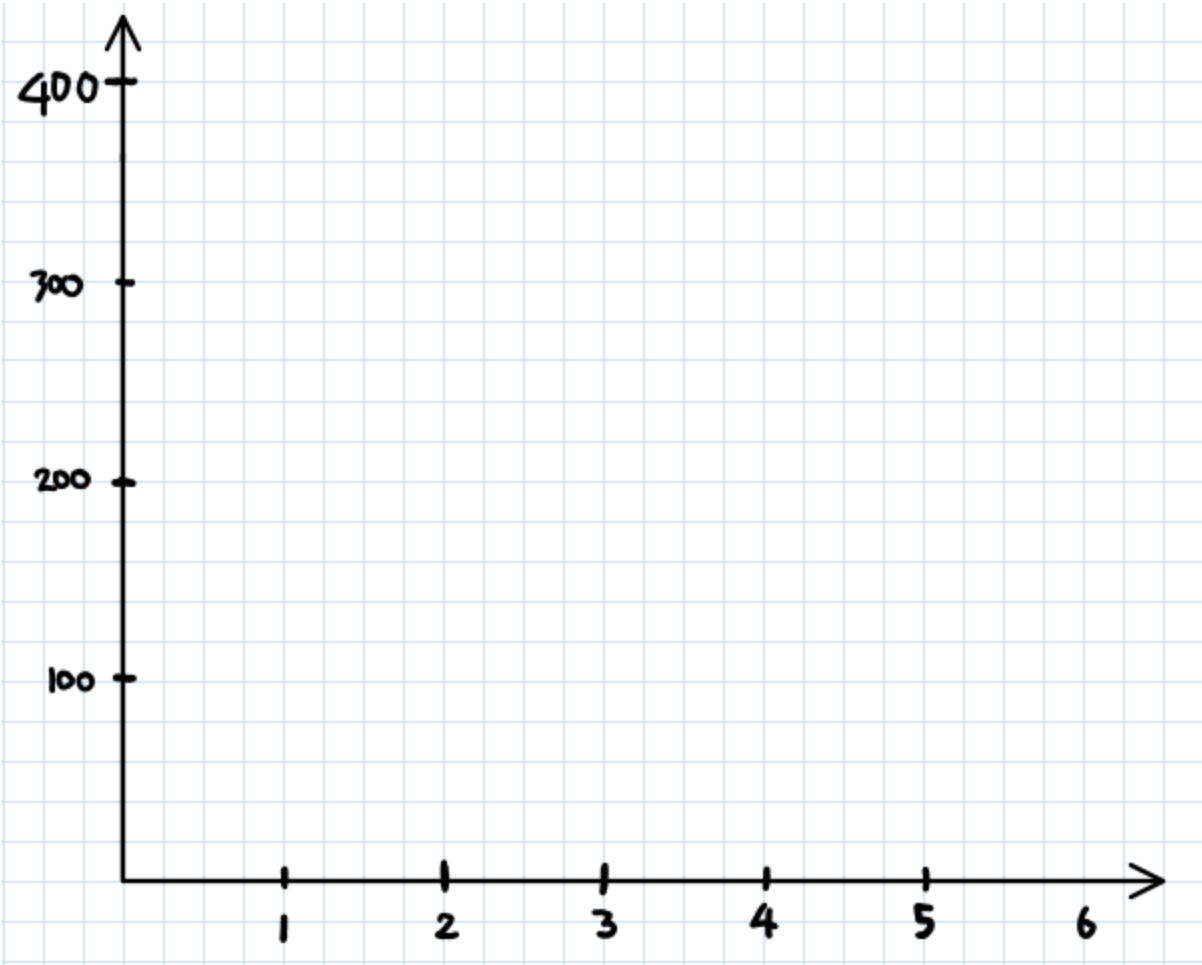
(e) Determine where the law of diminishing returns starts operating in your diagram

On Costs of Production in the Short Run

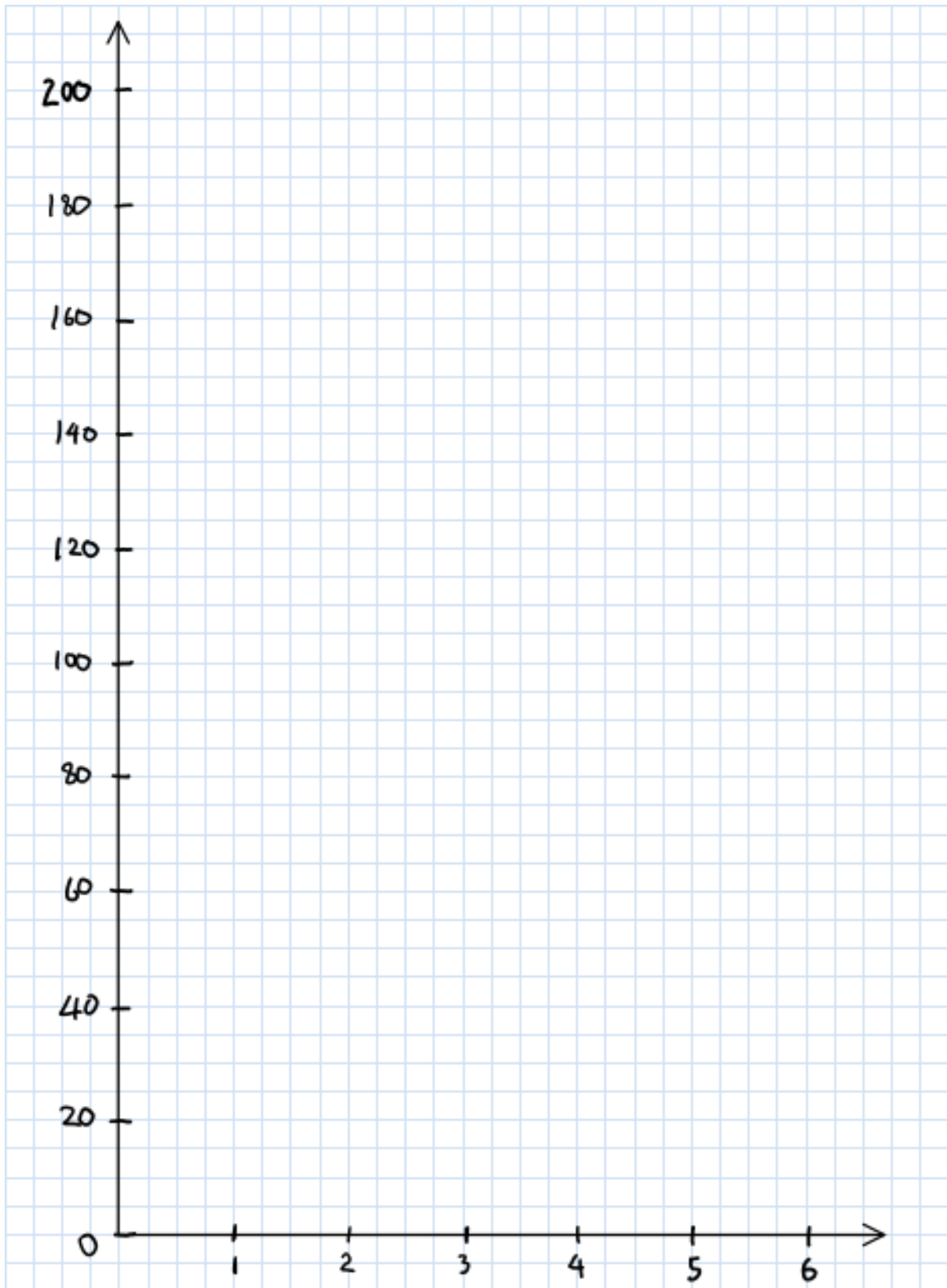
Q	FC	VC	TC	AFC	AVC	AC	MC
0	120	0	120				
1	120	60	180				
2	120	80	200				
3	120	90	210				
4	120	105	225				
5	120	140	260				
6	120	210	330				

(a) Find AFC, AVC, AC, and MC and fill them into the table above.

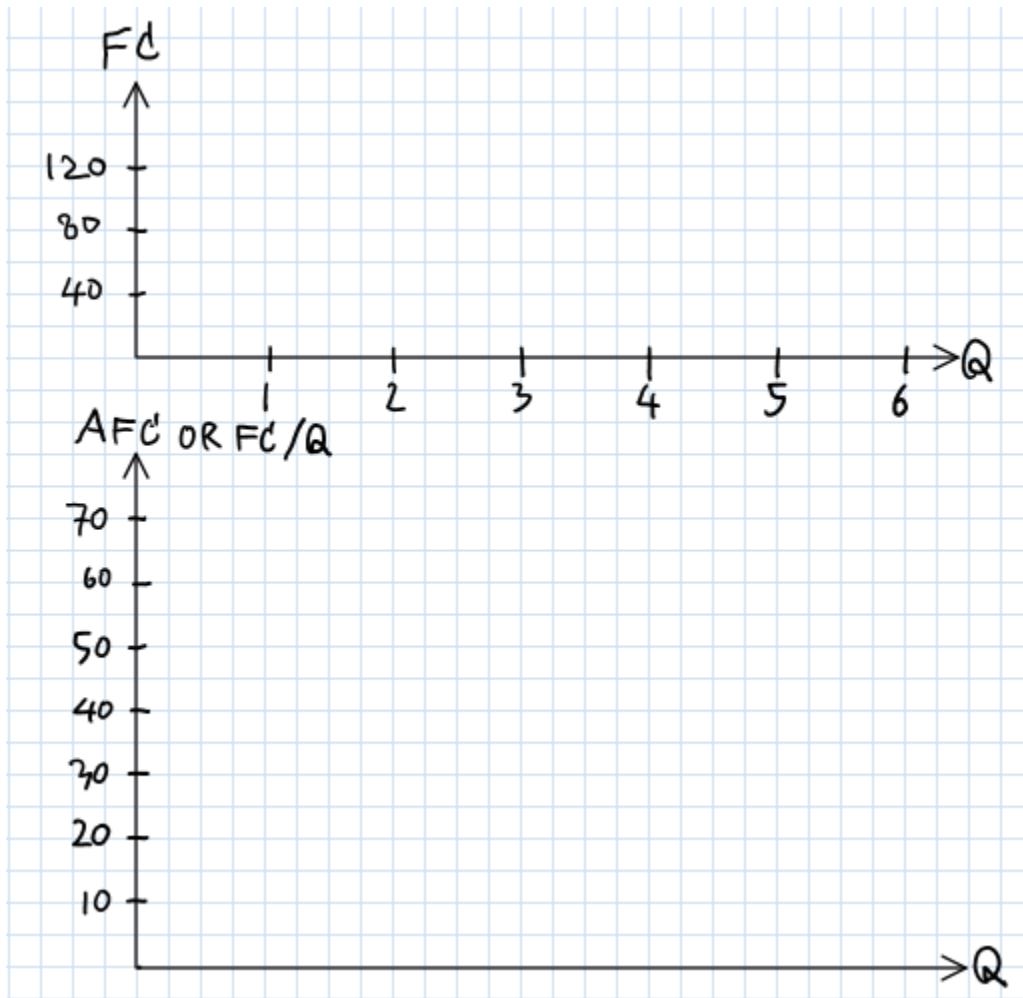
(b) Plot the FC, VC, and TC and Explain the reason for the shape of the curves



(c) Plot the AFC, AVC, AC, and MC Schedules, all in the area below.



(d) Plot FC first and derive AFC from FC "geometrically." Then explain the shape of AFC.



(e) Plot VC first and derive AVC from VC "geometrically." Then explain the shape of AVC.

