1. Assumed both a product market and a labor market are perfectly competitive, a table of marginal product is given below.

MRP = MR · MP

VMP = P · MP

MR = P

L   MP   MRP

Unit of labor	Marginal product of labor
2	12
3	8
4	6
5	4
6	2

MRP: 144, 96, 72, 48, 24

P

W = MFC

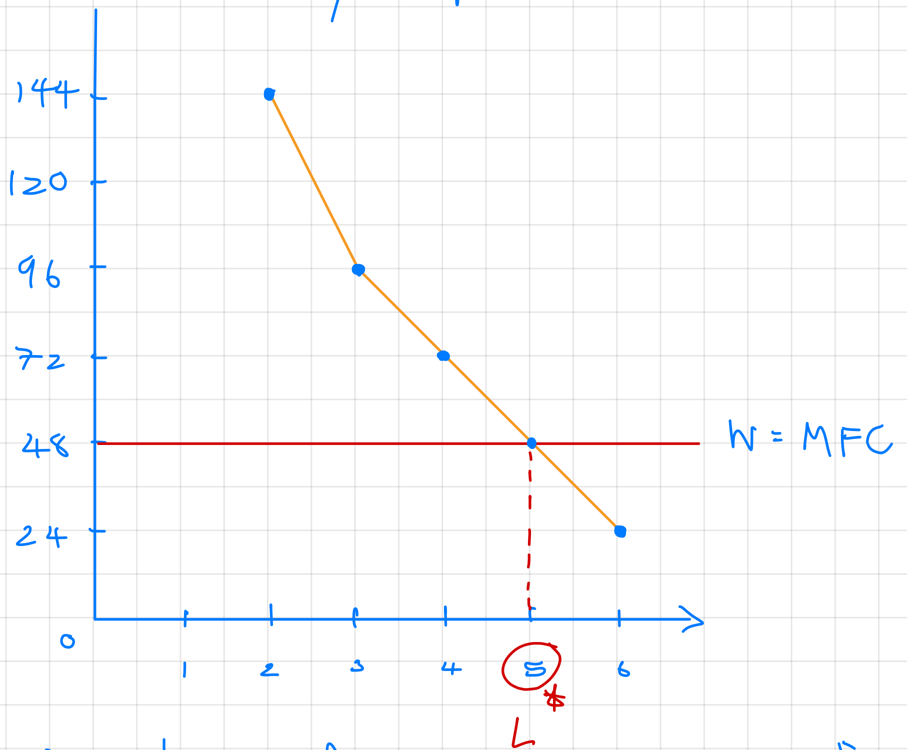
This product can be sold in the market for $12 each while labor wage is $48, answer the following questions clearly.

1.a) Figure out how many units of labor this firm will choose as input for its production to maximize profit. Illustrate a graph to support your answer and explain.

1.b) Supposed that there is a sudden economic recession driving consumers' purchasing power downward, what would happen to the units of labor hired by this firm? Support your answer with illustrations that also show a connection between product market and labor market.

Perfectly Competitive

1.a)



Optimal unit of labor to maximise profit when MRP = MFC

↳ $L^* = 5$

Marginal benefit = Marginal cost

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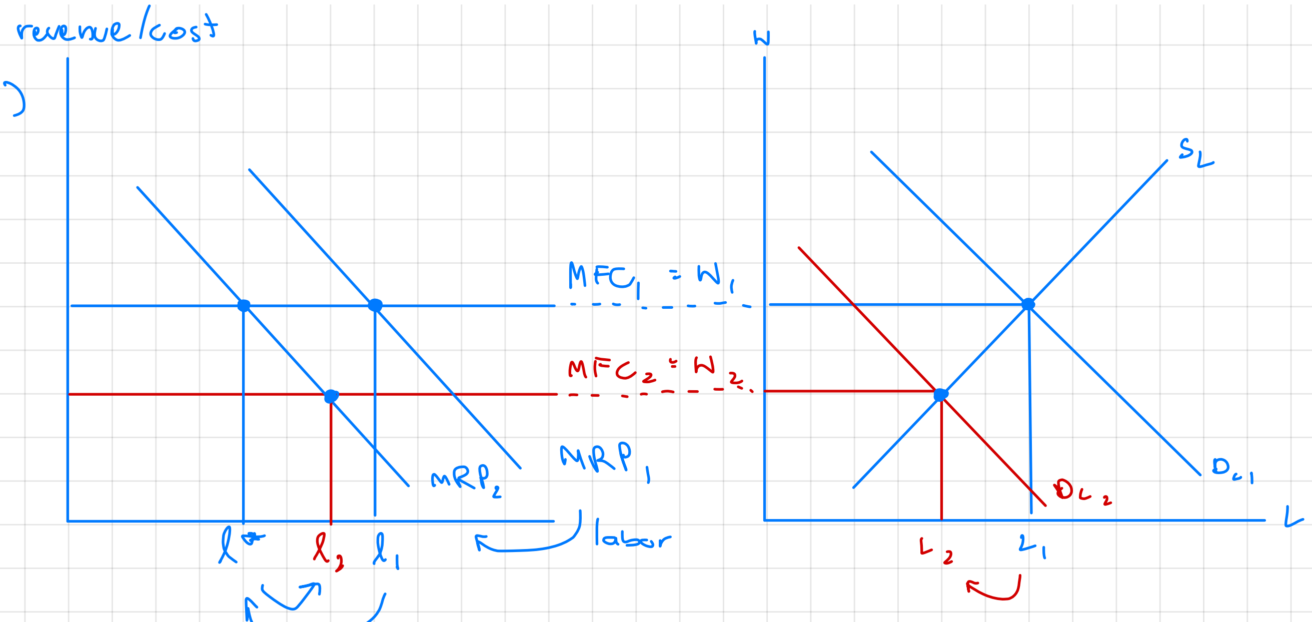
1.b)



Lower consumer's purchasing power shifts MRP curve downwards as demand & price ↓ in the product market. Firm demands less labor so D_L shifts left & wage drops

∴ Lower labor hired by this firm ($l_1 \rightarrow l_2$)

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2. In a telecommunication sector where there are 3 companies namely A, D and T, at first, these companies can capture 50%, 20% and 30% of market share respectively. All of them share the same marginal cost of $0.2 on average for a unit of service per minute. Answer the following questions

2.a) If company A can charge users for $1 on average for a unit of service, figure out the Lerner's index for company A.

2.b) Figure out the HHI index for this industry at the current state.

2.c) If D and T decide to merge their companies, figure out the new HHI index.

2a) $L = \dfrac{P - MC}{P} = \dfrac{1 - 0.2}{1} = 0.8$

2b) $(50)^2 + (20)^2 + (30)^2$

$= 2500 + 400 + 900$

$= 3800$

2c) $= (50)^2 + (50)^2$

$= 2500 + 2500$

$= 5000$

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3. Consider these statements and indicate which one of the choices fits with each statement and roughly explain why.

Choices

1. Not a market failure
2. Market power
3. Externalities
4. Public goods
5. Moral hazard
6. Adverse selection

3.a) People feel that price level is hiking.

3.b) Morpheus always hears a loud fight coming from a room next to his.

3.c) Trinity does not receive her full-benefit until her first 3-month of her work position.

3.d) In Chiang Mai, there is no earthquake alarming system.

3.e) Starbucks coffee is more expensive than Amazon coffee.

3.a) Market power - Monopolist control the price

b) Externalities - Can't control sound next room

c) Moral Hazard - Trinity get advantage taken by her employer

d) Public goods - earthquake alarm is non-excludable & non-rivalry

e) Not market failure - not relevant

Assignment 3
Assigned on Apr 29th, 2022. To be submitted on May 6th, 2022 before midnight

<u>Instructions</u>

(1) Please read the instruction carefully.
(2) Please read each question carefully and answer the questions straightforwardly. Always provide economic reasons at lease a paragraph for your analysis, or a graph when necessary, even when the question does not indicate so.
(3) Handing and submitting assignments are only available via BE Moodle.

<u>Answering the questions and preparing answer sheets</u>

(1) Answers are to be handwritten, in either digital or analog form, in a blank canvas or any clean paper. Make sure that your handwriting is clearly visible and readable.
(2) There is no need to rewrite the question. Just indicate the question number clearly for each of the answer, such as 1.a).
(3) When done, for the digital case, collage all the pages into a single PDF file. For those who write on sheets of paper, take photo of all pages then convert all of them into a single PDF file as well.
(4) Name your PDF file as StudentID_YourNickname, such as 640123456_Bo.

<u>Submitting your answers</u>

(1) Make sure your file does not exceed 10MB. This is the maximum file size for BE Moodle upload.
(2) Login to BE Moodle, head into the course, then the assignment topic.
(3) Choose your file to submit. Done. There will be timestamp for your upload date and time, so please make sure to not submit later than that.

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