1.9) To maximize the profit, $MRP = MFC$

★ $MR = P = 12$ because Labor market is perfectly competitive.

In perfectly competitive market, $MR = P$ and $MFC = W$

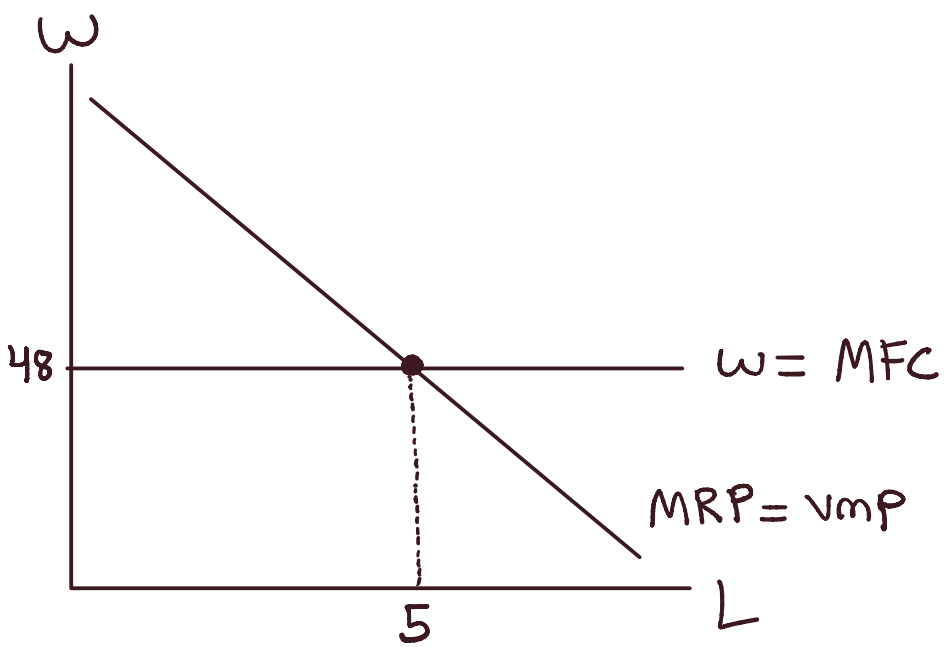
So, $MRP = w$

$$MRP = MFC$$

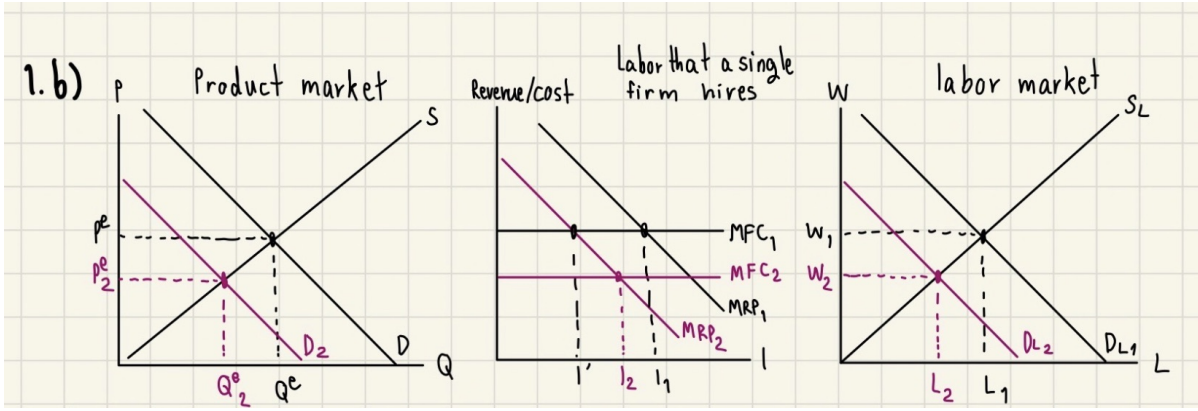
$$MP \cdot 12 = 48 \text{ (wage)}$$

$$MP = 4$$

According to the table, when $mp = 4$, firm utilize 5 units of labor therefore, firm will hire 5 units of labor to maximize their profit.



1. b)



When there is a sudden economic recession driving consumer's purchasing power downward, the demand in the product market shifts to the left, decreasing price and quantity. The decrease in price reflects to MR that also goes down. Lower MR reduces MRP from MRP_1 to MRP_2, but now MFc doesn't change. The new equilibrium of labor that this firm hires shifts from l_1 to l'. Every single firm demands less labor. So, labor demand in the labor market shifts from DL_1 to DL_2. Decreasing demand for labor will drive the wage downward from w_1 to w_2, and also decrease the equilibrium number of labor from L_1 to L_2 in the labor market. So, the units of labor hired by this firm will decrease from l_1 to l_2.

2.a) Lerner's index $= \frac{P-mc}{P}$

$= \frac{1-0.2}{1} = 0.8 = 80\%$

∵ Company A has high market power.

2.b) A = 50, D = 20, T = 30

HHI index $= (50)^2 + (20)^2 + (30)^2 = 3,800$

2.c) D and T decide to merge their company

$D + T = 20 + 30 = 50$

new HHI index $= (50)^2 + (50)^2 = 5,000$

∵ The new HHI index is higher than the old HHI index, which means that it has less competition or high concentrated market.

3.a) Market power (firm set higher price)

3.b) Externalities (Morpheus is a third party who got affected)

3.c) Moral hazard (trinity is worse off)

3.d) Public goods (it is a goods that everyone can use)

3.e) Not a market failure (This does not mean that market doesn't work).