

1. A firm that hires workers to maximize profits will also maximize labor productivity.

Answer: False

Consider this example. The price of output is \$1.

workers	output day	output per day workers	revenue per day	marginal value product
1	20	20	\$20	\$20
2	30	15	\$30	\$10

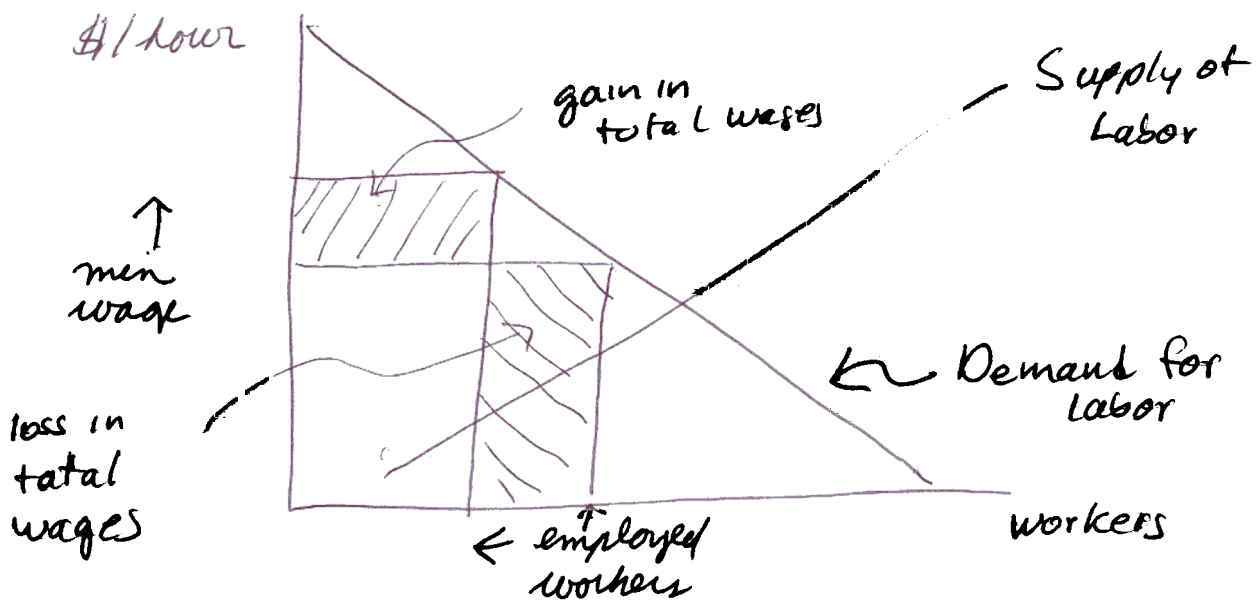
Labor productivity is maximized at 1 worker

However if the wage is less than \$10,
profit is maximized with 2 workers

2. If the demand for labor is price inelastic and the minimum wage exceeds the competitive equilibrium wage, an increase in the minimum wage will increase the total wages of employed workers.

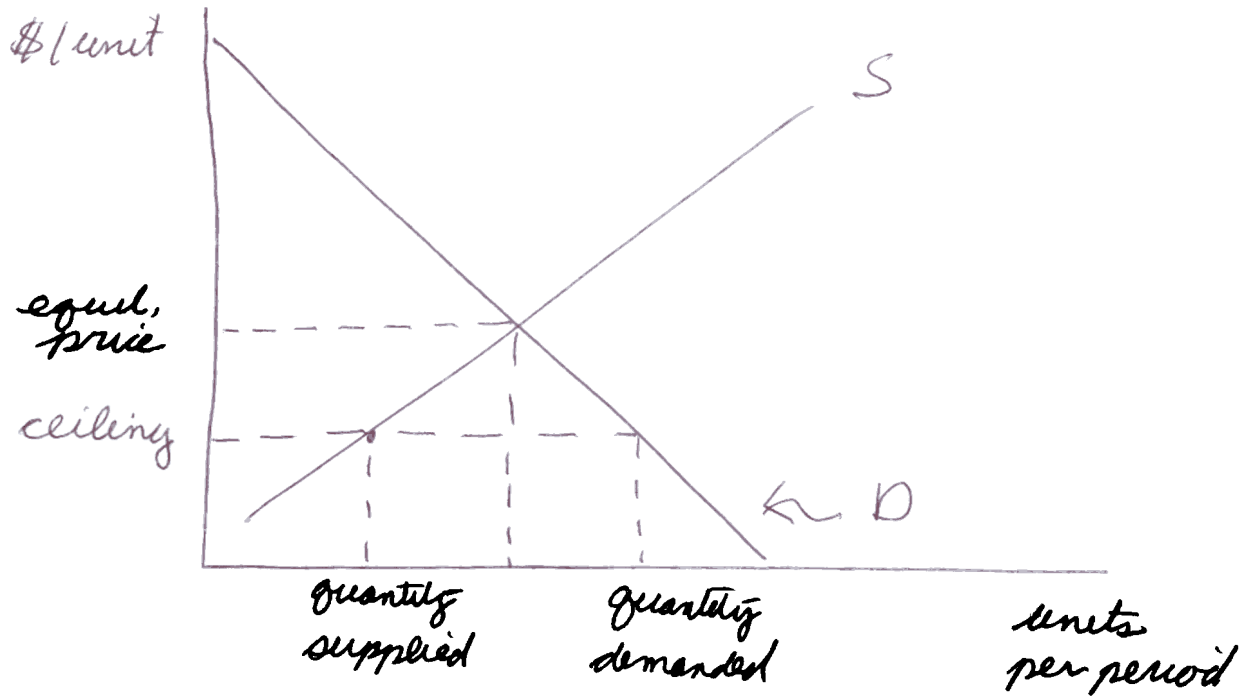
Answer: True

the demand for a good is inelastic, increase in the price of the good will increase total revenue. In this case, the price is the minimum wage, and total revenue is the total wages of employed workers. Thus, an increase in the minimum wage increases total wages



3. A price ceiling that is lower than the competitive equilibrium price will cause excess supply.

Answer: False



Quantity demanded exceeds quantity supplied

4. Ed's bakery can sell as many loaves of bread as it wishes for a price of \$2 per loaf. To keep calculations simple, let us assume that Ed's only costs are hired labor. If Ed hires 1 worker, he can produce 200 loaves of bread per day. If Ed hires 2 workers, he can produce 350 loaves of bread per day. If he hires 3 workers, he can produce 450 loaves of bread per day. If he hires 4 workers, he can produce 480 loaves of bread per day. If he hires 5 workers, he can produce 500 loaves of bread per day, and if he hires 6 workers, he can produce 510 loaves of bread per day. If he hires 7 or more workers, he can still produce only 510 loaves of bread per day. If Ed increases his work crew from 4 workers to 5 workers, his daily revenue will increase by:

- (a) \$100
- (b) \$40
- (c) \$60
- (d) \$20
- (e) \$120

Answer: B

workers	loaves per day	revenue per day	MVP
1	200	\$400	\$400
2	350	\$700	\$300
3	450	\$900	\$200
4	480	\$960	\$60
5	500	\$1,000	\$40
6	510	\$1,020	\$20
7	510	\$1,020	\$0

5. If each worker that Ed hires must be paid a daily wage of \$65, how many workers should he hire per day to maximize his profits?

- (a) 3
- (b) 2
- (c) 4
- (d) 5
- (e) 1

Answer: A

From the table on the previous page, the MVP of the third worker is \$200, and the MVP of the fourth worker is \$60. Thus, the firm would increase its profit by hiring the third worker, but it would reduce its profit by \$5 if it hired the fourth worker. Following the MVP rule, it should hire **3** workers.

6. Ed's demand function for labor looks like a stairway with horizontal line segments one unit long at heights of:

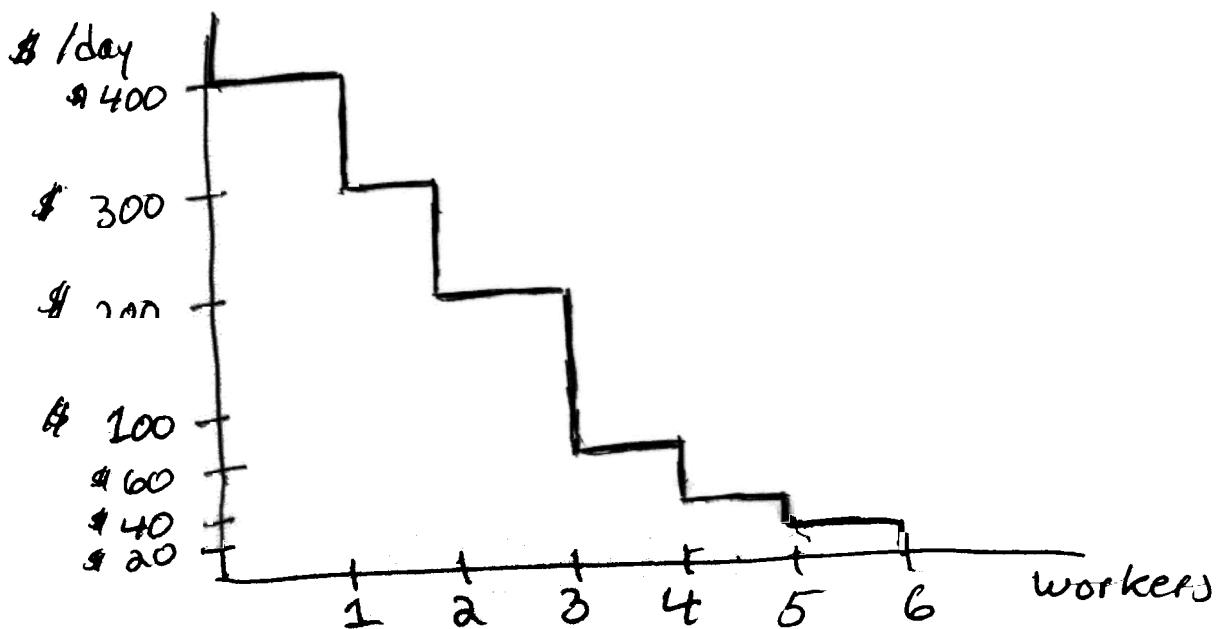
- (a) \$200, \$350, \$450, \$480, \$500, and \$510
- (b) \$400, \$700, \$900, \$960, \$1,000, and \$1,020
- (c) \$400, \$300, \$200, \$60, \$40, and \$20
- (d) \$400, \$350, \$300, \$240, \$200, and \$170
- (e) \$200, \$175, \$150, \$120, \$100, and \$85

Answer: C

From the table following question 4 we can construct the following table.

wage	demand
$W > \$400$	0
$\$400 > W > \300	1
$\$300 > W > \200	2
$\$200 > W > \60	3
$\$60 > W > \40	4
$\$40 > W > \20	5
$\$20 > W > \0	6

Now draw the demand function



7. Dyspepsia, Minnesota has 7 greasy-spoon restaurants. Each restaurant can hire either one or two workers. The only costs that restaurants have are labor and materials. Restaurants can hire either 0, 1, or 2 workers. A restaurant that hires no workers will have no costs. After paying for its materials and before it pays its wages, a restaurant that hires one worker will have a net revenue of \$125 per day and a firm that hires two workers will have a net revenue of \$175 per day. What is the highest daily wage rate at which a restaurant would be willing to hire two workers?

- (a) \$87.50
- (b) \$175
- (c) \$125
- (d) \$50
- (e) \$25

Answer: D

workers	revenue	MVP
1	\$ 125	\$ 125
2	\$ 175	\$ 50

If wage is less than or equal to \$50,
the firm will hire 2 workers.

8. In Dyspepsia, the total number of workers that greasy-spoon restaurants will be willing to hire is

(a) 14 if the daily wage rate per worker is below \$87.50, 7 if the daily wage rate per worker is between \$87.50 and \$125 and 0 if the daily wage rate per worker is above \$125.

(b) 14 if the daily wage rate per worker is below \$50, 7 if the daily wage rate per worker is between \$50 and \$125, and 0 if the daily wage rate per worker is above \$125.

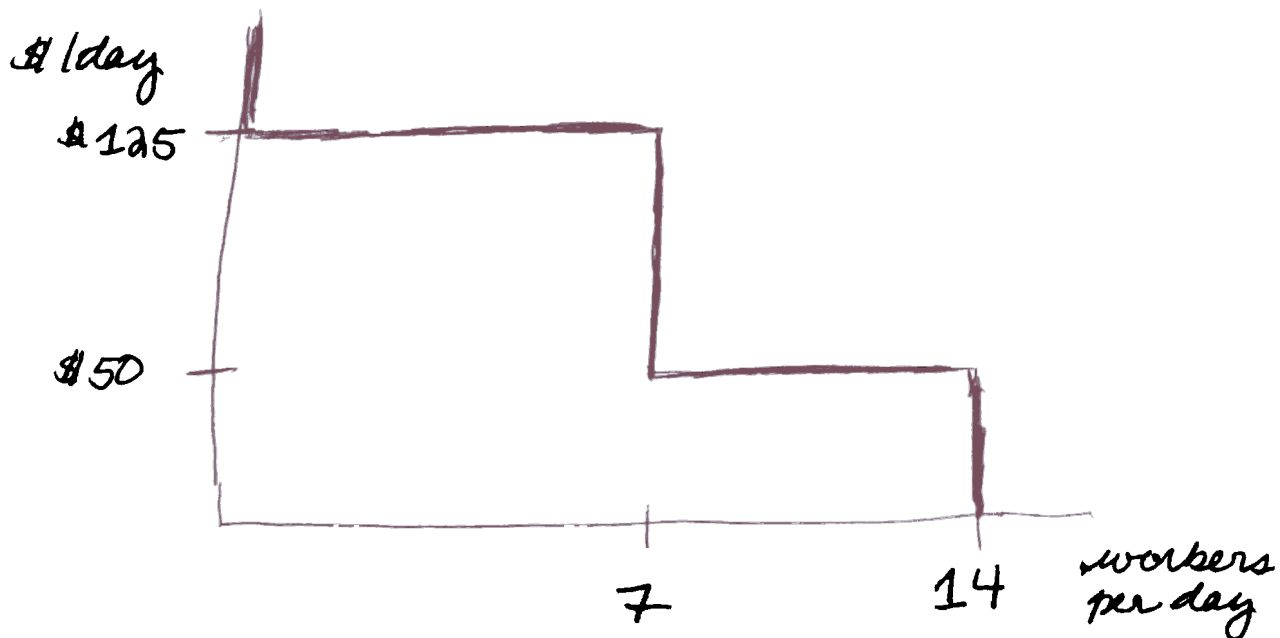
(c) 7 if the daily wage rate per worker is below \$87.50, 14 if the daily wage rate per worker is between \$87.50 and \$125 and 0 if the daily wage rate per worker is above \$125.

(d) 7 if the daily wage rate per worker is below 62.50 and 0 if the daily wage rate per worker is above 62.50

(e) 14 if the daily wage rate per worker is below 87.50 and 0 if the daily wage rate per worker is above 87.50

Answer: B

Draw the aggregate demand function.



9. The supply function for barley is described by the equation $Q=P/3$ where P is the price of barley and Q is the amount that will be supplied at price P . The demand function is described by the equation $Q=112-9P$ where P is the price of barley and Q is the amount that will be demanded. What is the competitive equilibrium PRICE of barley?

- (a) $P=19$
- (b) $P=24$
- (c) $P=12$
- (d) $P=9$
- (e) $P=27$

Answer: C

$$\text{Demand} = \text{Supply}$$
$$112 - 9P = P/3$$

$$336 - 27P = P$$

$$336 = 28P$$

$$12 = P$$

10. Consumers of barley are trying to persuade Congress that the competitive equilibrium price of barley is too high and that Congress should pass a law making it illegal to buy or sell barley at a price higher than 9. If this law were passed, at the legal maximum price,
- (a) supply of barley would exceed demand by 28 units.
 - (b) demand for barley would exceed supply by 28 units.
 - (c) supply would equal demand at the legal maximum price.
 - (d) there would be both excess demand and excess supply.
 - (e) demand for barley and supply of barley would both fall by 28 units.

Answer: B

Demand at $P=9$

$$\begin{aligned} Q &= 112 - 9P \\ &= 112 - 81 \\ &= 31 \end{aligned}$$

Supply at $P=9$

$$\begin{aligned} Q &= P/3 \\ &= 9/3 \\ &= 3 \end{aligned}$$

$$\text{Excess demand at } P=9 = 31 - 3 = 28$$