Chapter 3:- Demand, supply and Market Equilibrium

Demand: الكمية التي يرغب المستهلك في شرائها
المقدرة على الشراء تعتمد على (الدخل، سعر السلعة، الكمية)

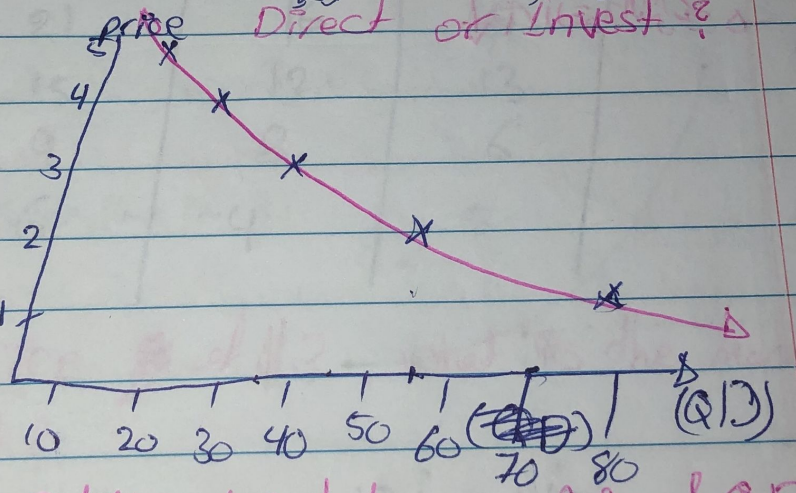
↳ Law of Demand → (other thing equal):
as P↑ → QD↓
as P↓ → QD↑

↳ There is a negative (Inverse) relationship between price and QD

Demand Curve :-

Price	QD
$1	80
$2	55
$3	35
$4	20
$5	10

① Graph the Demand curve
② Is Relationship between P & QD Direct or Invest ?



↳ The Relationship between price & QD is negative (Inverse).

⇒ Why Demand curve is downward sloping?

(1) ↳ Marginal Utility ← الاشباع الاضافي

$Q \uparrow \rightarrow MC \downarrow \rightarrow P \downarrow$

(2) Income Effect , Substitution effect

من خلال تغير القوة الشرائية (قدرتي بقدر اشتري بخل من سلعة معينة)

كلما زاد سعر السلعة ← النتيجة انو القوة الشرائية بتقل

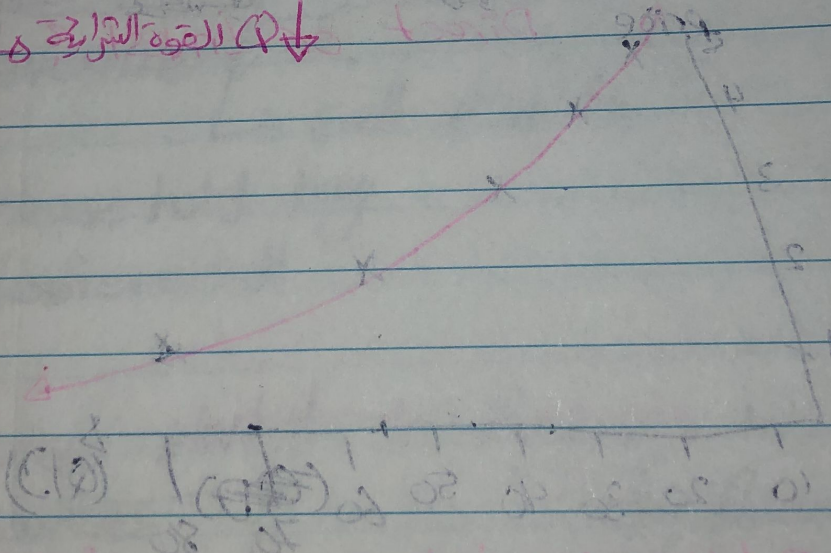
$P \uparrow \rightarrow$ القوة الشرائية $\downarrow$

التبديل بين السلع

$P \uparrow \rightarrow Q \downarrow$

sub to shift

التغير من خلال التبديل بين السلع



March, 5

(*) Individual & Market Demand:

↳ Individual Demand :- كم انا طلبت من السلعة (مستوى الفرد)

↳ Market Demand : مجموع الطلب الفردي (كم السوق طلبت)
↳ sum of Individual Demand

Ex The table below show the Demand for wheat in a market there are just three buyers.

Price	Buyer 1 QD	Buyer 2 QD	Buyer 3 QD
$2	21	16	15
$3	15	12	13
$4	9	8	6
$5	6	4	5

1 at aprice of $3 ; what is the market Demand for wheat?

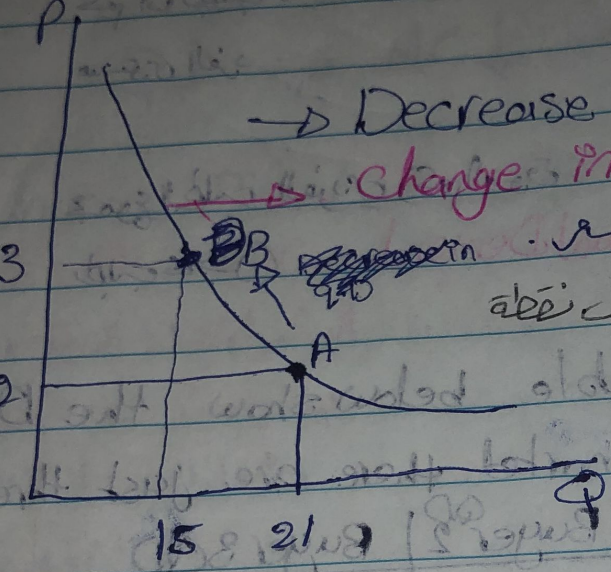
Market Demand $D_m = 15 + 12 + 13 = 40$

2 at aprice $5 ; what is the D_m for wheat?

$D_m = 6 + 4 + 5 = 15$

* Change in Quantity Demand: التغير في الكمية المطلوبة
* Change in Demand: التغير في الطلب

1



→ Decrease in QD

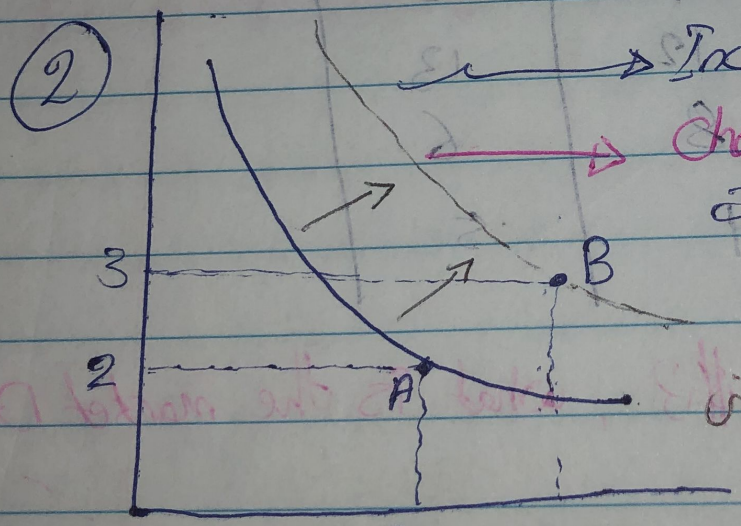
→ Change in Quantity Demand.

تغيرت الكمية والسعر

← انتقال من نقطة إلى نقطة

على نفس المنحنى

2



→ Increase In demand

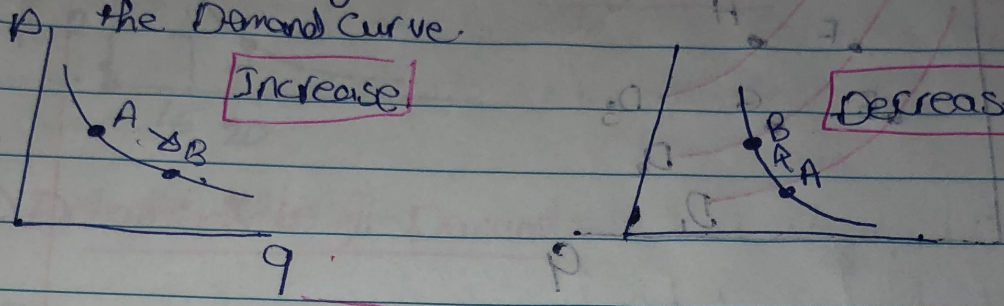
→ Change in Demand

* تغير الكمية والسعر بنفس الاتجاه

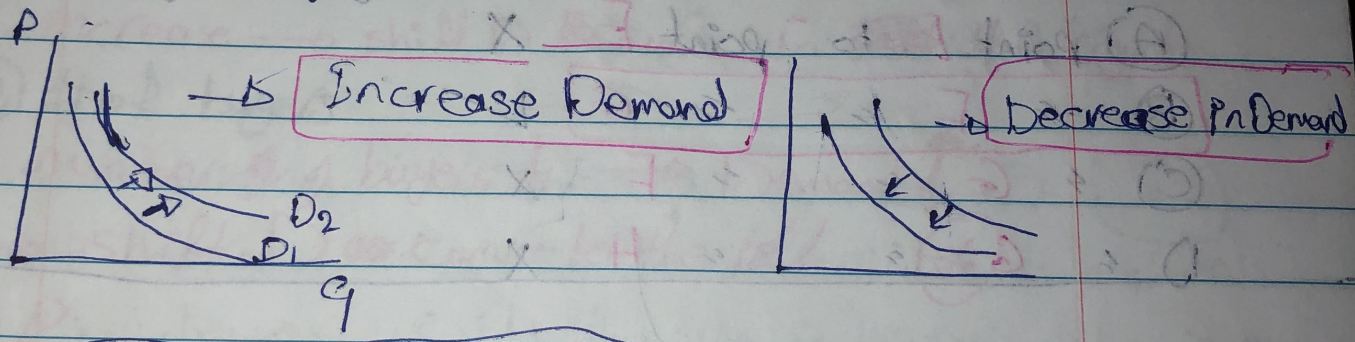
← انتقال من نقطة إلى نقطة مش على نفس المنحنى

Notes

* Increase in **Quantity Demand** is illustrated graphically as a movement down along the Demand curve.



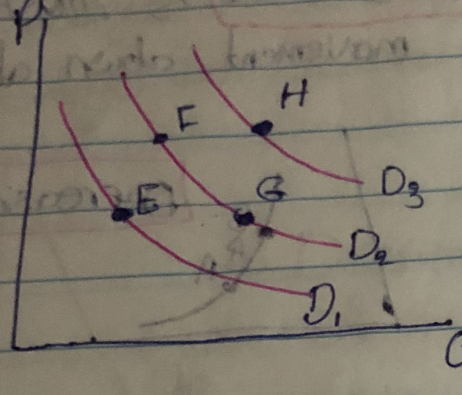
* Change in **Demand** is illustrated graphically as a shift to right the D curve.



* Last week ~~[illegible]~~ at P = $1 consumer able to buy 10 cans of Cola. this weak → Consumer able to buy 14 cans of Cola at P = $1

↳ Increase in demand

Ex.



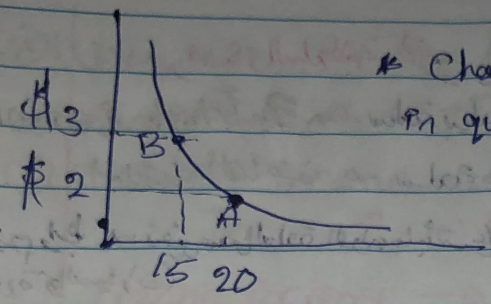
Refer to the graph. An increase in quantity Demand would be illustrated by a change from:-

(A) point E to point F X

(B) F " G ✓

(C) G " F X

(D) G " H X



* Change in a good price leads to Change in quantity Demand

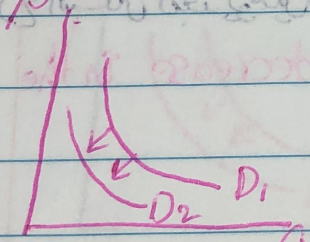
(*) Determinants of Demand:

① Consumer preferences. (ذوق المستهلك)

=> Consumer preferences increase → demand increase → shift D curve to the right

② # of buyers

number of buyers ↓ → Demand ↓ → shift D curve to the left (*)



③ Income (I)

↳ normal good $I\uparrow \rightarrow D\uparrow$ / $I\downarrow \rightarrow D\downarrow$

→ Inferior good $I\downarrow \rightarrow D\uparrow$ / $I\uparrow \rightarrow D\downarrow$

(السلعة الدنيئة)

④ price of related goods: تغير اسعار السلع المرتبطة

Ⓐ substitutes goods: سلعة بديلة → Iphone & samsunge

Ⓑ Complements goods: سلعة مكملة → التلفون والشاحن

Ⓒ Unrelated goods: تغير سعر السلعة لا يؤثر على السلعة الثانية (البنزين والسيارة)

* Ex Ⓐ If goods A & B are substitutes goods:

If $P_A \uparrow \longrightarrow D_B \uparrow$

Ⓑ If goods A & B are complements goods:

If $P_E \uparrow \longrightarrow D_G \downarrow$

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⑤ Consumer expectations: بتحدد الطلب في المستقبل

الحالي على المستقبل، زي مثلاً انه سعر التلفون اليوم 1500 و بعد يومين 1000 فأنا رح استنى لبعد يومين ورح يقل الطلب في المستقبل الحالي ويزيد في المستقبل القريب

⇒ If consumers expected price decrease in the future

↓ ⇒ Demand now Decrease

⇒ shift Demand to the left.

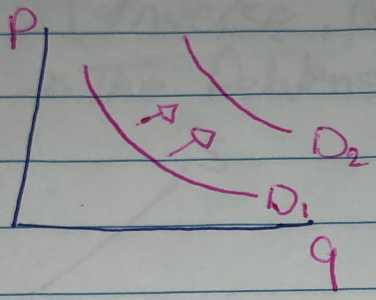
⟸ بعض التوقع في سعر السلعة في المستقبل.

March, 7

(*) What effect will each of the following have on the Demand for IPhone 8

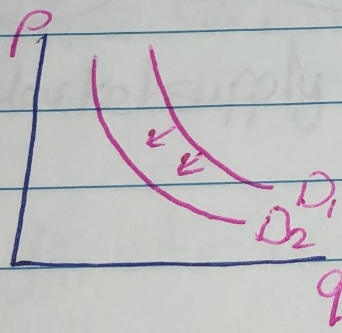
(1) Consumer income rises and iphone is normal good

Income ↑ and IPhone is normal → demand for iphone increase → shift Demand to the right.



(2) A decrease in the price of Samsung galaxy s8

Prices of Samsung galaxy ↓ → demand I-Phone ↓ → shift Demand to the left.

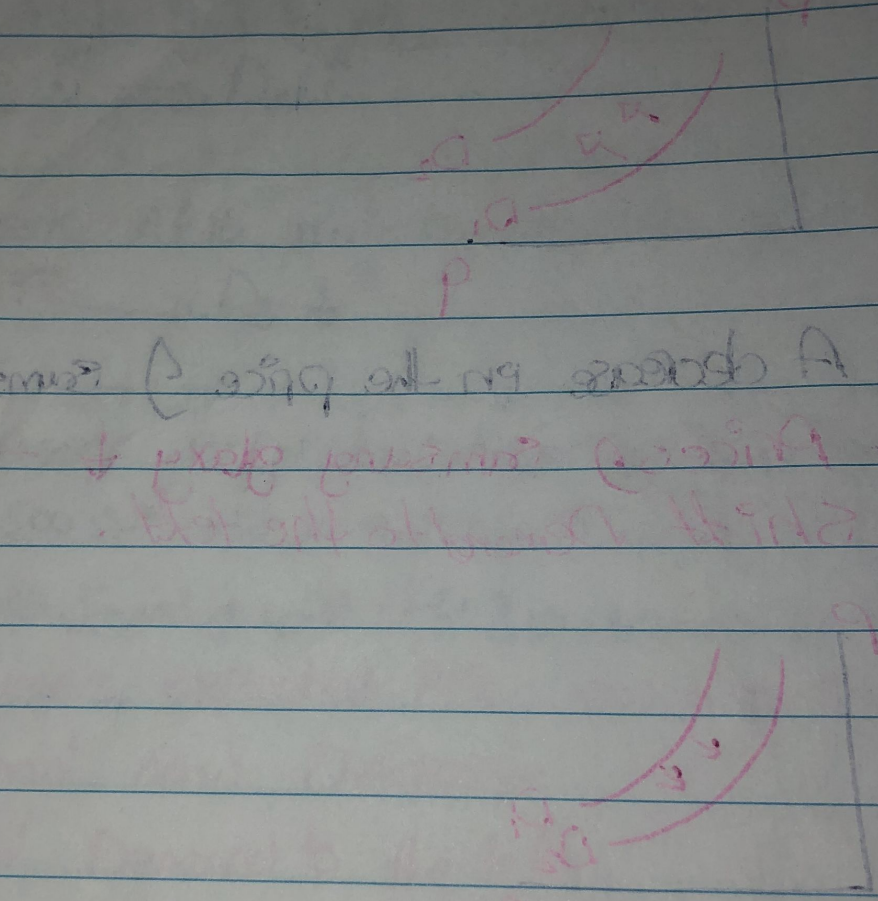


(3) The price of service chip rises اسعار شريحة الخدمة ارتفعت

Price of service ↑ → quantity Demand for services ↓ → Demand for I-phone ↓ → shift Demand to the Left.

(4) Consumers anticipated that the price of Iphone 8 will greatly come down in the near future.

Demand for Iphone ↓ ⇒ Shift to the left.



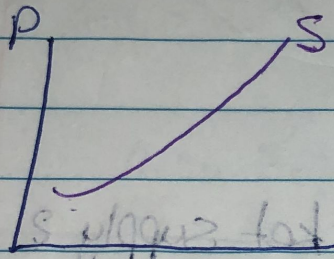
Supply:- العلاقة بين سعر السلعة والكمية التي يرغب البائع بإنتاجها.

Law of supply:- $P\uparrow \rightarrow Qs\uparrow$

$P\downarrow \rightarrow Qs\downarrow$

(Inverse, positive, Direct.)

↳ The Relationship between P & Qs



Individual and Market supply:-

Market supply = Sum of Individual supply at each price.

Price	Firm A Qs	Firm B Qs	Firm C Qs
2	2	3	4
4	4	6	8
6	6	9	12
8	8	12	16

① at $p = \$2$, what is the market supply?

$2 + 3 + 4 = 9$

② at $p = \$4$, what is the market supply?

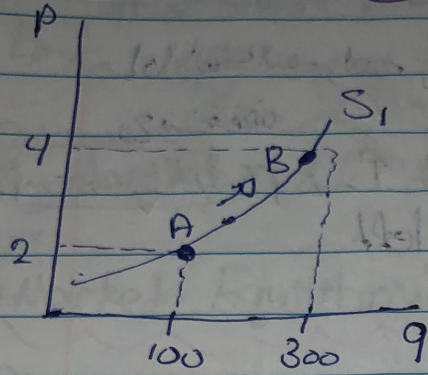
$4 + 6 + 8 = 18$

③ at $p = \$8$, what is the market supply

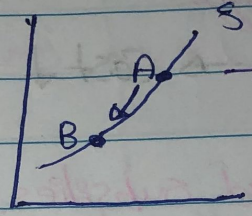
$= 8 + 12 + 16$

$= \underline{36}$

⊛ Change in quantity supply ; Change in supply

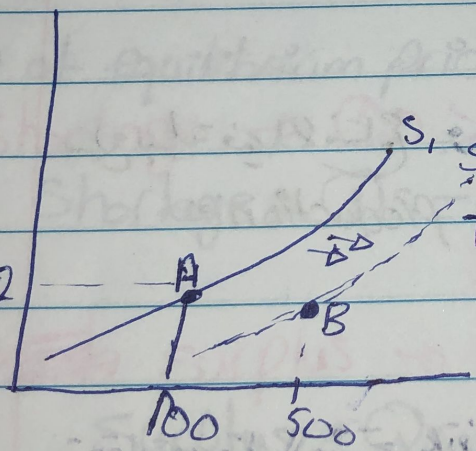


⇒ Change in q_s
∴ Increase in q_s

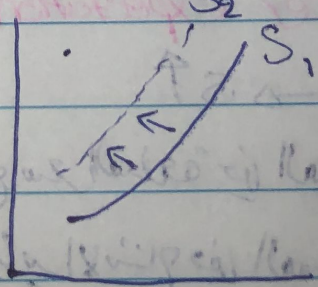


→ change in q_s
decrease in q_s

Change is supply :-



→ Increase in supply



→ Decrease is supply

Determinent of supply:-

① Resources prices:- اذا التكاليف زادت البيع يرتفع ويرخص

resources prices ↑ → cost ↑ → profit ↓ → supply ↓
→ Shift supply curve to the left

② Technology

Improvments ↑ in Technology → cost ↓ → profit ↑ → supply ↑

③ Taxes and subsidies:- الدعم الحكومي والضرائب

Tax ↑ → Cost ↑ → profit ↓ → supply ↓ الضرائب

subsidies ↑ → cost ↓ → profit ↑ → supply ↑

④ prices of other goods

Substitutes in production:- سلع بديلة في الانتاج

If good A & C are substitutes in production:-

Price of A ↓ → Supply of C ↑

⑤ producer expectation. توقعات المنتج قبل المنتج تغير السلعة في المستقبل

P ↓ → S ↑

إذا أنا متوقع ارتفاع سعر السلعة في المستقبل فالمنتج رح يخفض انتاجه اليوم حتى يزيد الانتاج في المستقبل ويربح أكثر.

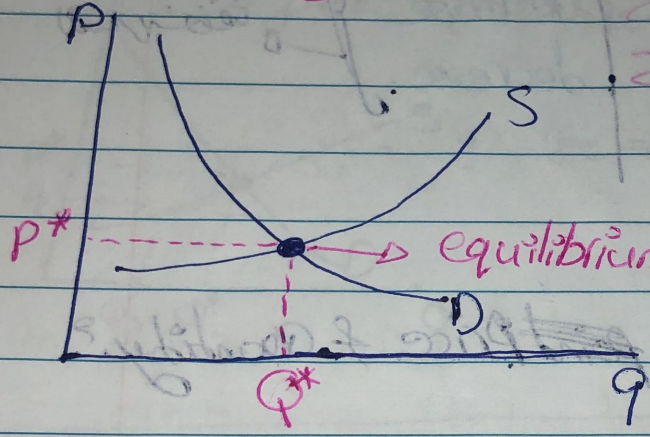
⑥ # of Sellers

# of Sellers ↑ → S ↑

↳ The supply curve shift to the right →

12, March

⊛ Market Equilibrium. توازن السوق



⊛ at equilibrium price (P*): $Q_D = Q_S$

⊛ Shortage → $Q_D > Q_S$

Shortage = $Q_S - Q_D$

⊛ surplus → $Q_S > Q_D$

Surplus = $Q_S - Q_D$

Example

↳ The following table show the Demand & Suply for wheats.

price	Q_D	Q_S	shortage or surplus	effect on price
$3	1200	600	(600) Sh	increase
$6	1000	700	(300) Sh	increase
$9	800	800	0 equ	No effect
$12	600	900	300 S	decrease
$15	400	1000	600 S	decrease

(A) Complet the taple.

(B) what is the equ. Price & Quantity.?

↳ $(Q_S - Q_D)$

↳ Equ. price = 9 $

Equ. Quantity = 800

(*) Excess demand فائض الطلب

↳ $Q_D > Q_S$ ↳ shortage

(*) Excess supply فائض العرض

↳ $Q_S > Q_D$ ↳ surplus

Application :- Government set price.

* price ceiling & price floor

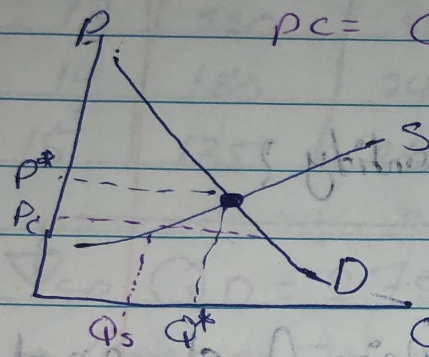
↳ السقف السعري ↳ الأرضية السعرية

(*) price ceiling :- السقف السعري

↳ أعلى سعر ممكن تو طلو السلعة (حماية للمستهلك)

Maximum legal price.

⇒ ينتج عنه Shortage



$P_c = Q_D > Q_S$ ← Shortage

أقل من سعر التوازن

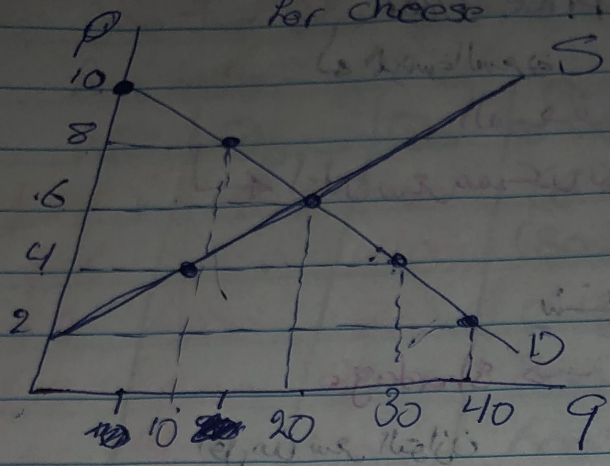
ينتج ⇒ Black Market ← التجار يستغلوا السلعة

ويبيعوها بأضعاف أسعارها.

(*) price floor ← الأرضية السعرية

هو سعر أعلى من سعر التوازن وينتج عنه surplus تفرضه الحكومة كحماية لحقوق المنتج

Example Consider the following market demand & supply for cheese :



(A) what is the equ. Price & quantity ?

$P^* = \$6$

$Q^* = 20$

(B) suppose that the G. set a price of cheese at 4$

1 what is this price control called? price ceiling or price floor ?

→ price ceiling

2 at this price is there a shortage or surplus.

at $P = \$4$: $Q_D = 30$ $Q_S = 10 \Rightarrow Q_D > Q_S \Rightarrow$ Shortage

3 What is the amount of shortage or surplus?

amount = $Q_S - Q_D$

$= 10 - 30$

$= -20$

Example Based on the following table which represent the supply and demand for one buyer & one seller of wheat. Answer the following questions:-

price	Q_D	Q_S
10	295	100
11	275	150
12	250	190
13	220	220
14	180	240
15	135	265

A- What is the equ. price? 13
what is the equ. Quantity? 220

B- ~~what~~ At $P = \$11$, Is there a shortage or surplus? why? By how much?

↳ $Q_D = 275$ $Q_S = 150$ → $Q_D > Q_S$ → shortage.

→ Because $Q_D \neq Q_S$

amount
→ $Q_S - Q_D$
$= 150 - 275$
$= (125)$

C- suppose that there are 20 buyers & 15 sellers of wheat in this market. what is the equ. price & quantity of wheat market?

price | Q_D | Q_S

(c)

Price	Market Demand	Market Supply
10	5900	1500
11	5500	2250
12	5000	3850
13	4400	3300
14	3600	3600
15	2700	8975

Market Demand = # of buyer * quantity demand

Market Supply = # of seller * quantity supply.

March 14

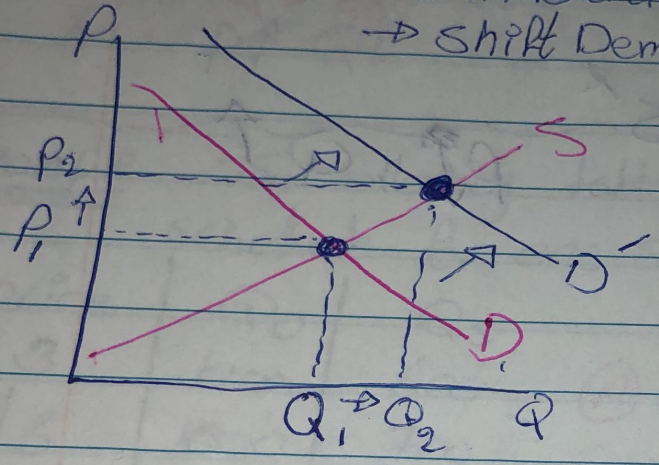
(*) Change in supply, Demand and Equilibrium

↳ Change in demand:-

(A) Increase in Demand

→ shift Demand curve to the right.

P↑, Q↑



(B) Decrease in Demand:-

→ shift demand curve to the left.

P↓, Q↓