Fundamental of Economics Date : ____/____/____

Chapter: 05

Topics : 3

Elasticity and it's application

The elasticity of Demand

↳ allows us to analyze supply and demand with greature precision

↳ is a measure of how much bugers and Sellers respond to changs in market.

(*) The price elasticity of Demand and its diterminants :

(*) Availability of close substitute

(*) Necessities versus Luxuries

(*) Definetion of the market

(*) Time Horizon.

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Demand

- The larger the number of close substitutes.
- if the good is a luxary
- the longer the time period.

Price elasticity of Demand = $\frac{\text{Percentage change in quantity demand}}{\text{\% changes in Price}}$

The Midpoint Method :

▷ The midpoint formula is preferable when calculating the price elasticity of demand because it gives the same answer regardless of the direction of the change.

Price elasticy of demand = $\frac{(Q_2 - Q_1) / [Q_2 + Q_1)/2}{(P_2 - P_1) / [P_2 + P_1)/2}$

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Point A : Price = $4 Quantity = 120

Point B : Price = $6 Quantity = 80

∴ Price elasticity of demand = $\frac{(80-120)/(80+120)/2}{(6-4)/(6+4)/2}$

↑ Midpoint Method

$= \frac{-40/200/2}{2/5}$

$= \frac{0.4}{0.4}$

$= 1$

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Inelastic Demand :

- Quantity of demanded doesn't respond strongly to price changes.
- Price elasticity of demand is less than one.

Elastic Demand :

- Quantity demanded responds strongly to change in Price
- Price elasticity of demand is greater than

Perfectly Inelastic :

Perfectly Elastic :

Unit Elastic :

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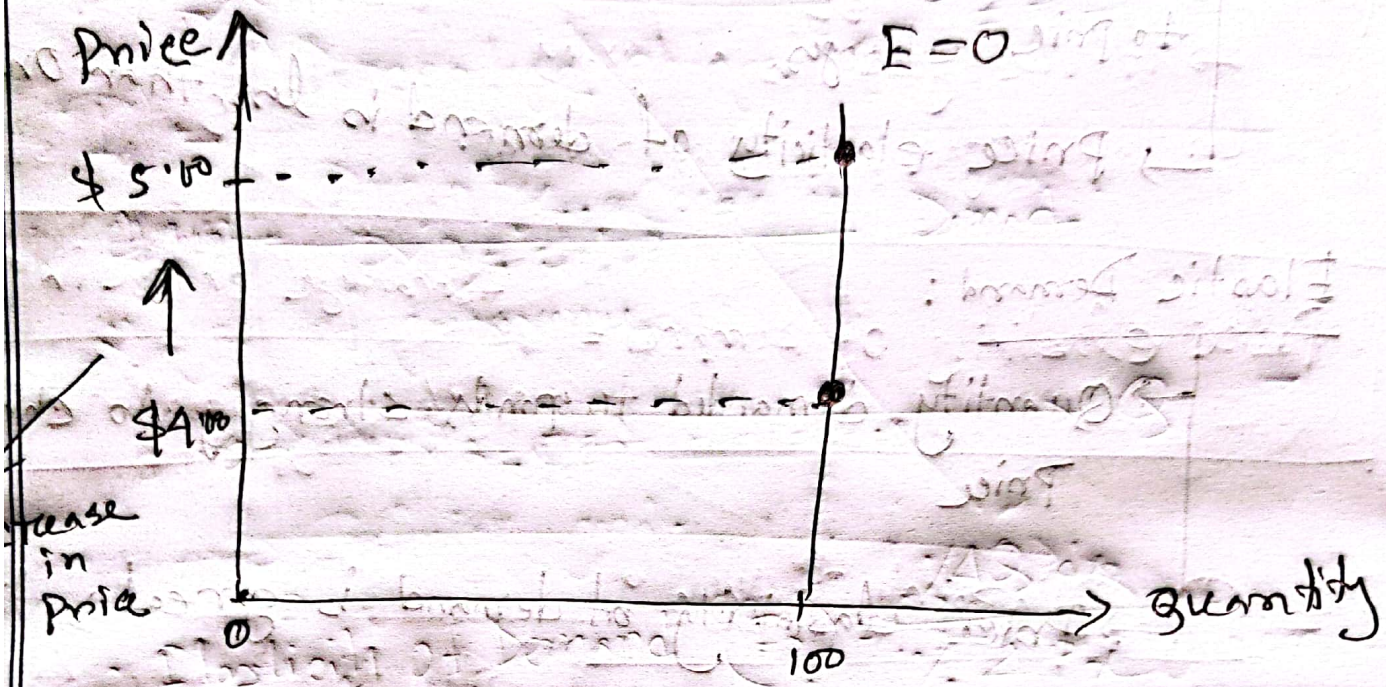
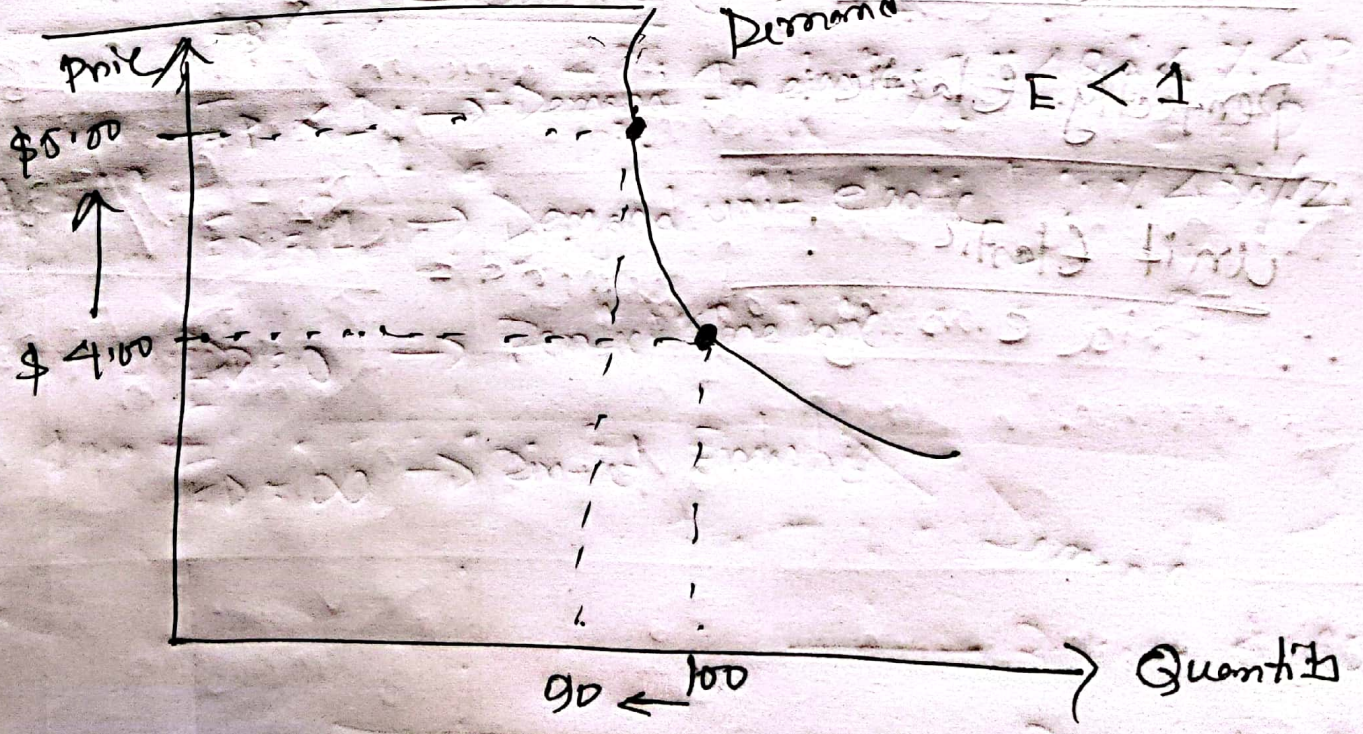
Perfectly Inelastic Demand



Inelastic Demand :



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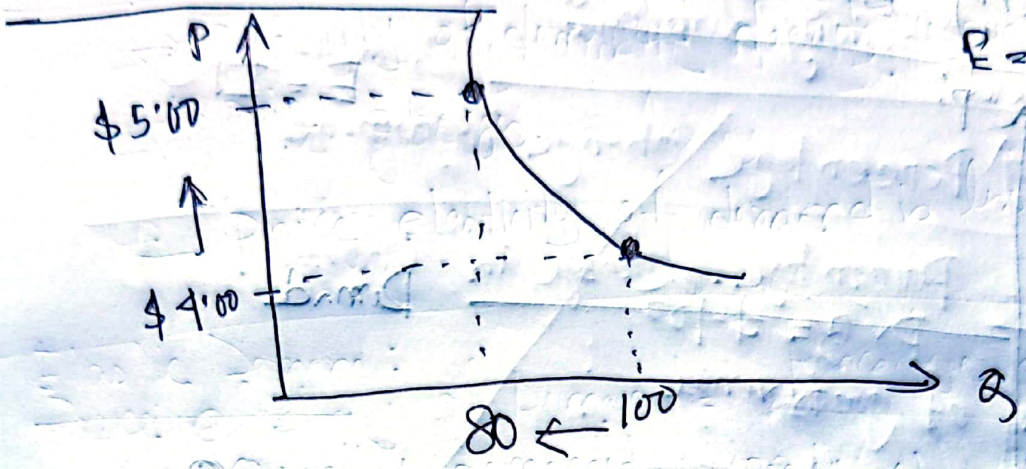
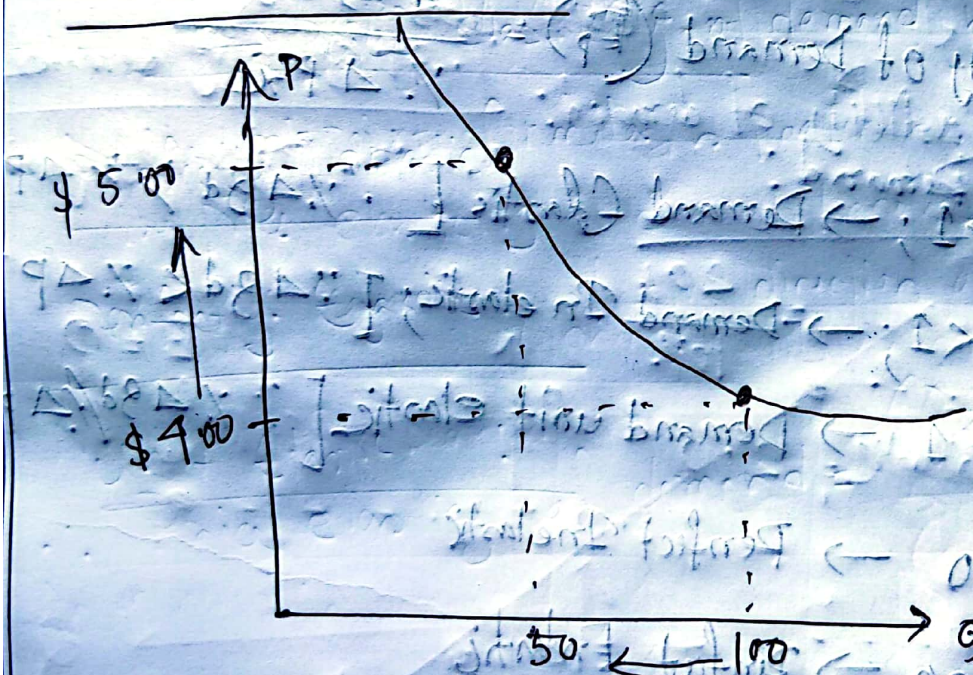
Unit Elastic Demand



Elastic Demand



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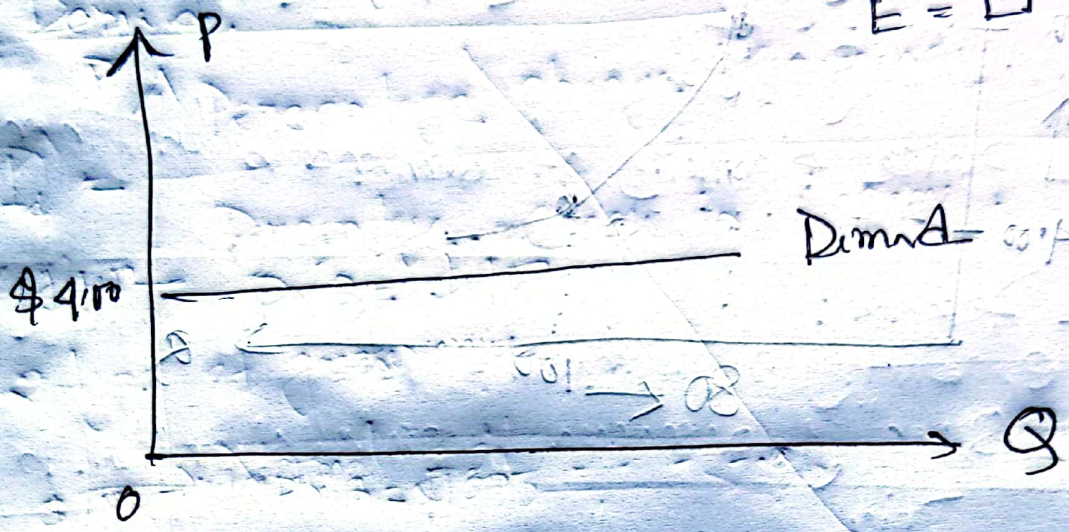
Perfectly Elastic Demand :



$\therefore$ Elasticity of Demand $(E_P) = \frac{\% \Delta Q_d}{\% \Delta P}$

$E_P > 1$; → Demand Elastic [$\because \% \Delta Q_d > \% \Delta P$]

$E_P < 1$; → Demand Inelastic ; [$\because \Delta Q_d < \% \Delta P$]

$E_D = 1$ → Demand unit elastic [$\because \% \Delta Q_d = \% \Delta P$]

$E_D = 0$ → Perfect Inelastic

$E_D = \infty$ → Perfect Elastic

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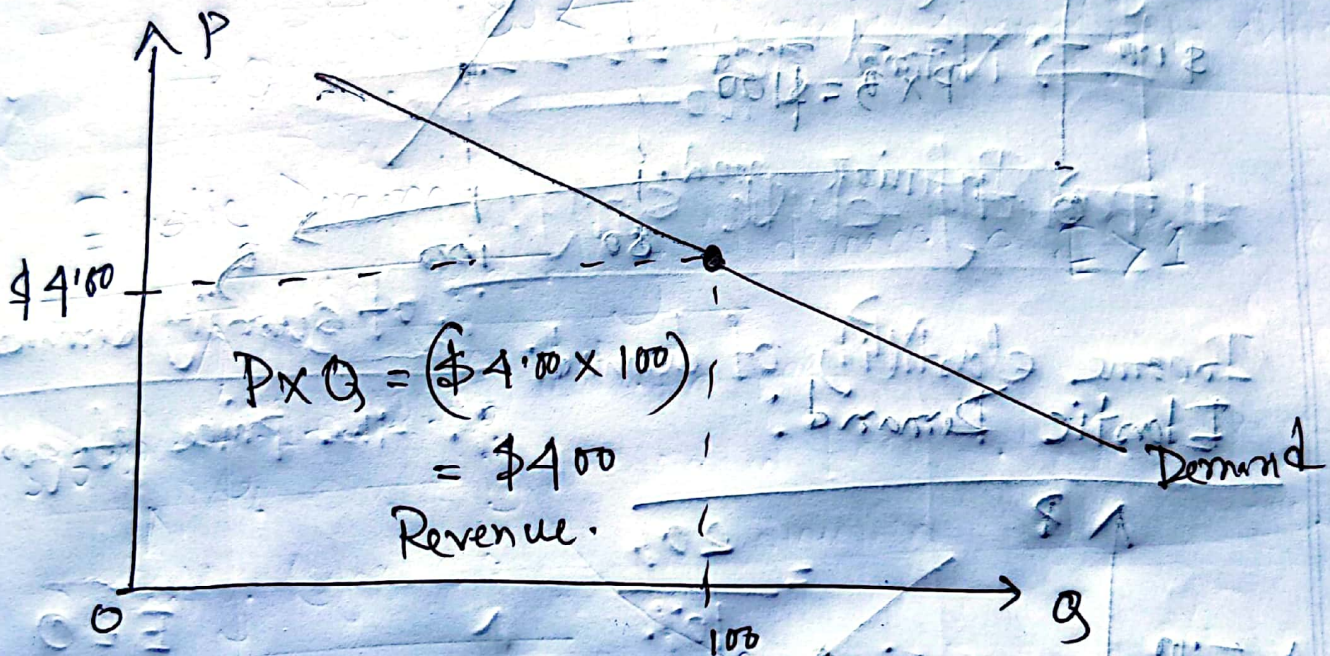
Total Revenue :

→ is the amount paid by buyers and recieve by sellers of a good.

$$TR = P \times Q$$



$P \times Q = (\$4'00 \times 100)$

$= \$400$

Revenue.

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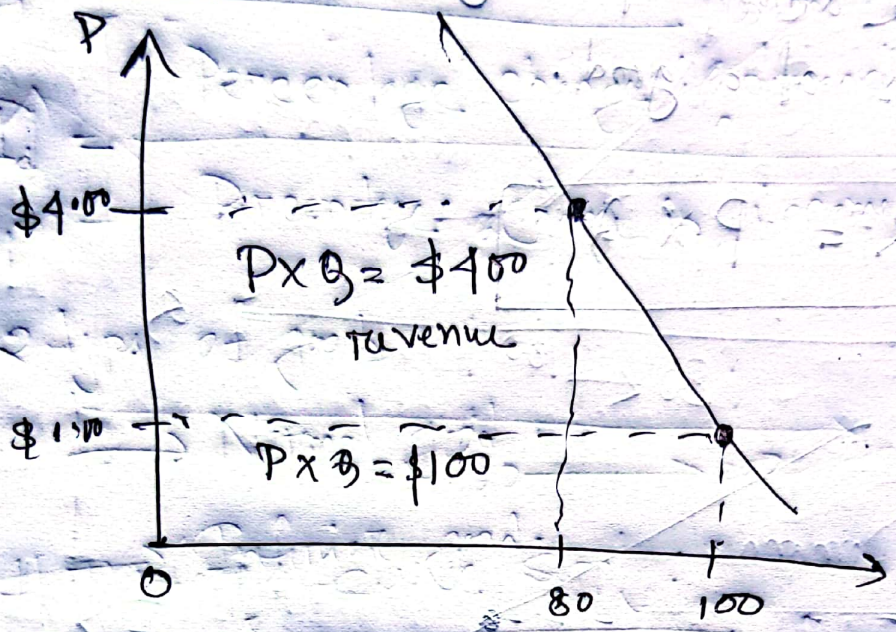
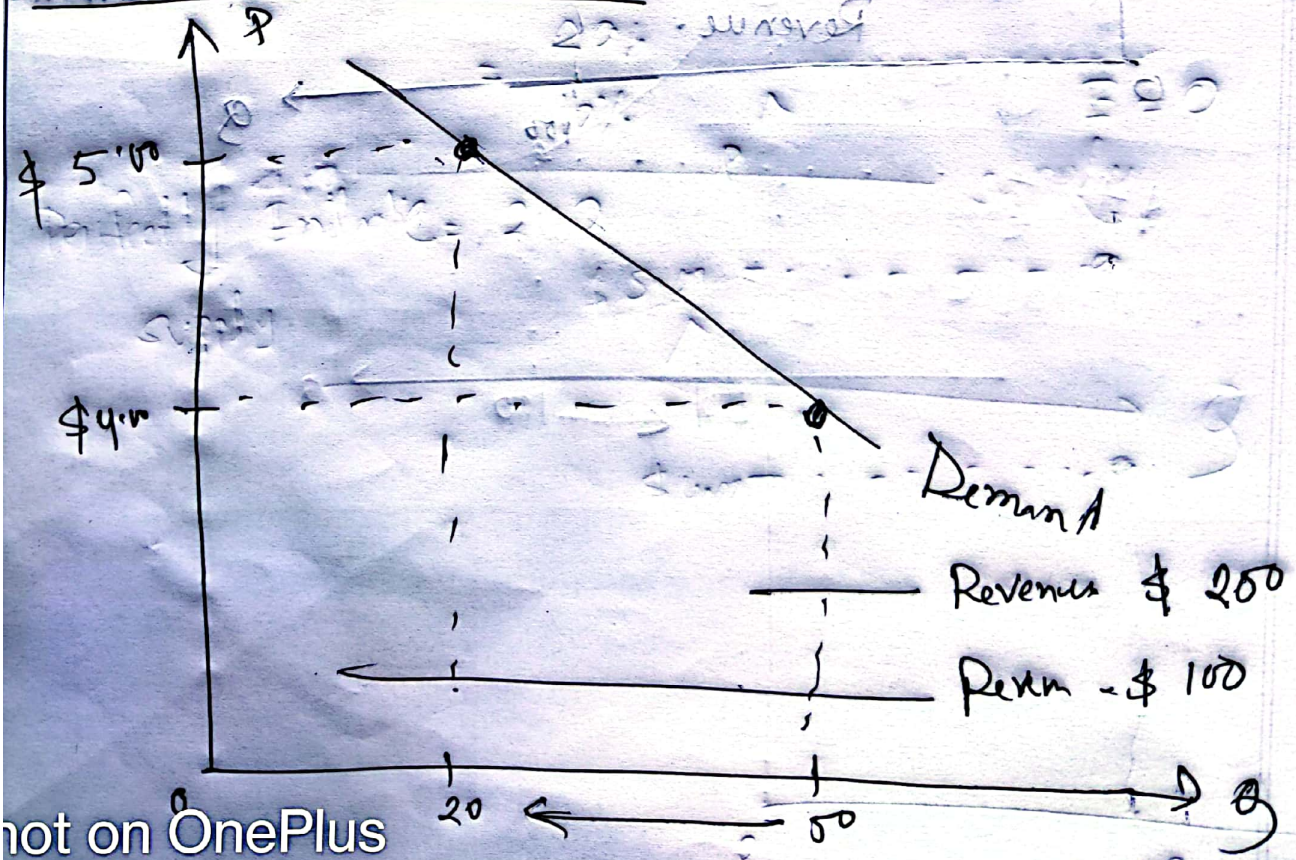
How total Revenue changes when price changes: Induk

Demand:



Elastic Demand:



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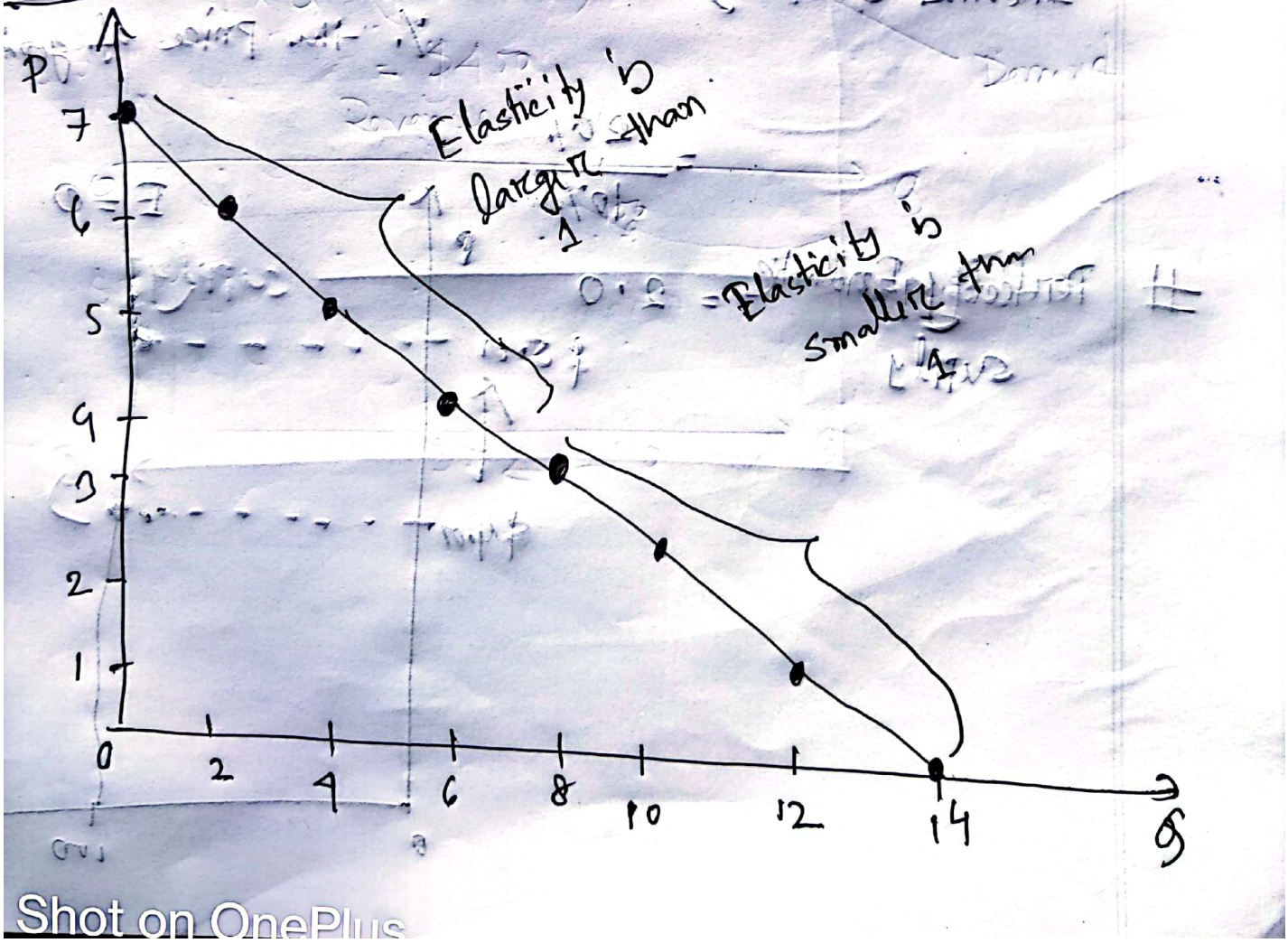
Elasticity and Total Revenue along a linear Demand Curve

Price	Quantity	Total revenue (P×Q)	Percent change in Price	Percent Change in quantity	Elasticity	Descrip
$7	0	$0				
6	2	12	15	200	13·0	Elastic
5	4	20	18	67	3·7	"
4	6	24	22	40	1·8	"
3	8	24	29	29	1·0	Unit Elast
2	10	20	40	22	0·6	Inelas
1	12	12	67	18	0·3	
0	14	0	200	15	0·1	"



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Income Elasticity demand:

$$I_d = \frac{\text{Percentage change in demand}}{\text{Percentage change in income}}$$

Quantity

2 types of goods

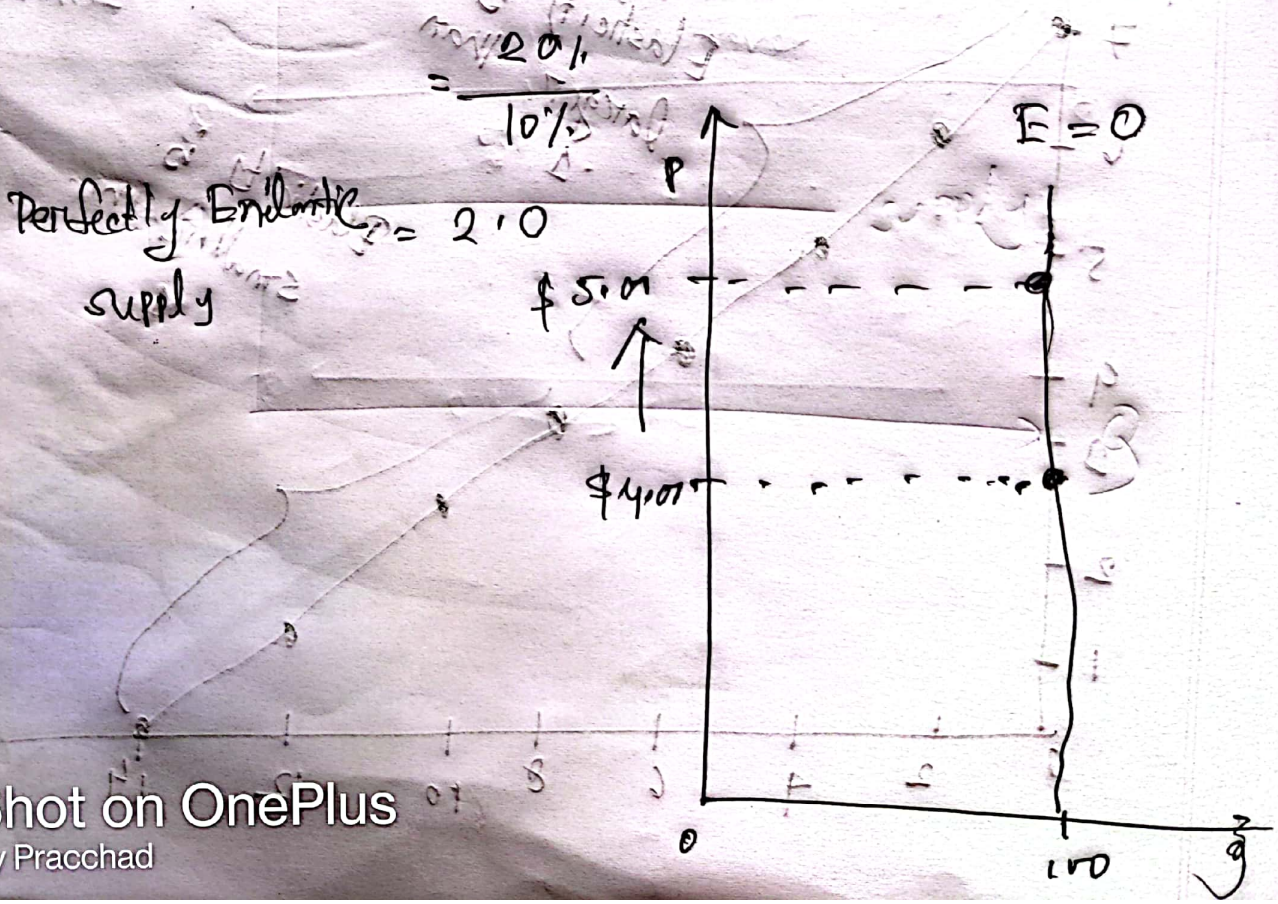
- Normal good
- Inferior good.

Income elasticity of demand: $\frac{\%\text{ of quantity demand}}{\%\text{ the price of good 2}}$

$= \frac{20\%}{10\%}$

$= 2.0$

Perfectly Elastic supply



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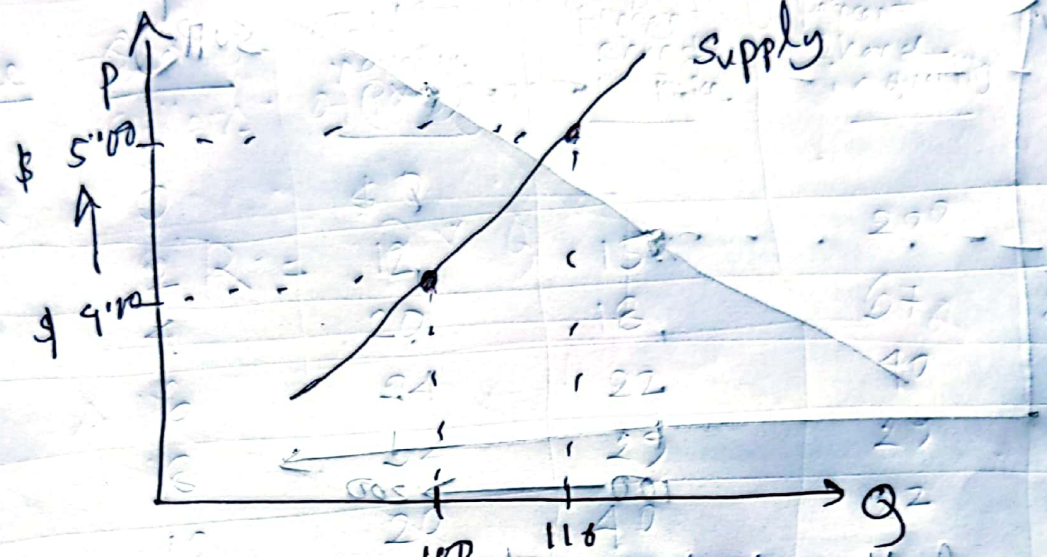
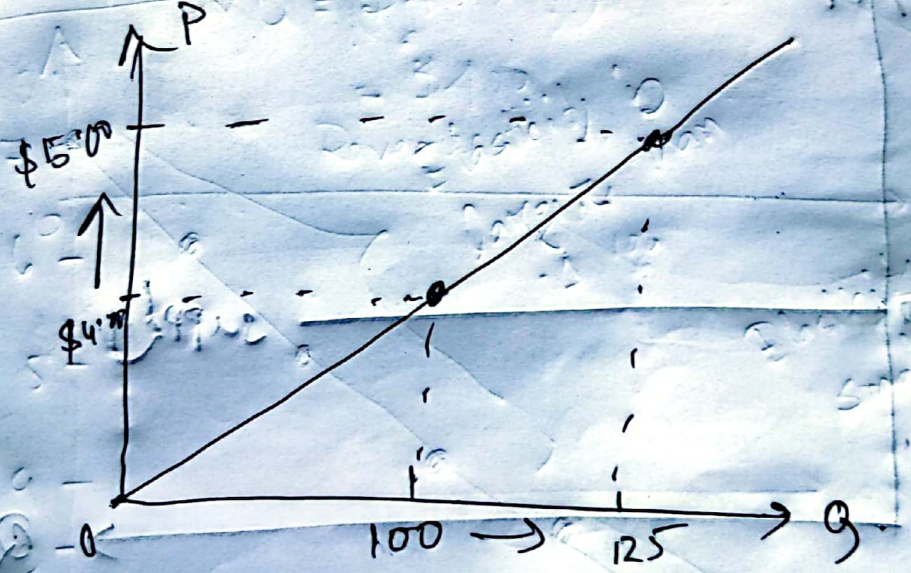
Inelastic supply :



unit elastic supply



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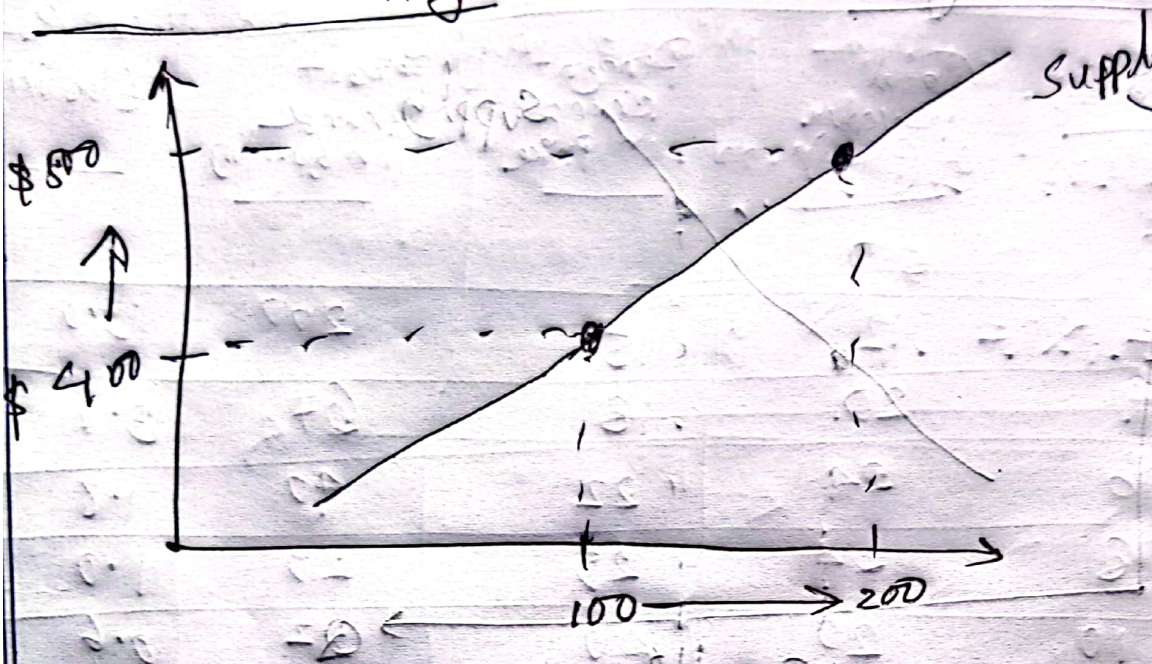
Elastic Supply :



perfectly elastic supply :