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$P > 7$ → $x_1 = 6$

$P \geq 7$ → $x_1 = 6$ or 7

$X(6, -)$ $Y(7, -)$

$X \geq Y$

$X > Y$

(demand)

Substitutes & Complement

Perfect Substitutes :

Ex:- Pens & Pencils

Pens are not available then we may be substitute it with other Chocolate

Complements :→ goods that are consumed together but in variable proportion.

Eg:- 1 Cup of tea & variable Spoon of Sugar.

(*) Show that if Consumer demand weak axiom of revealed preference then $x_1 \geq x_2$ and $p_1 x_1 \geq p_1 x_2$

indiff. Consumerry for 6 units

At x_2 indiff. Consumerry for 6 units

$V(6, m - 6p_1)$

$V(5, m - 5p_2)$

$\Rightarrow V(6) + m - 6p_1 \geq V(x_1) + m - p_1 x_1$ (M.P)

If Consumer maximize his utility then above Expression must be true.

So, $V(6) + m - 6p_1 \geq V(5) + m - 5p_2$

$V(6) - V(5) \geq -5p_2 + 6p_1$

$\Rightarrow p_1 \geq p_2$

for this we can consider $V(6)$ & $V(5)$

Now, $V(7) + m - 7p_2 \geq V(6) + m - 5p_2$

$\Rightarrow V(6) + m - 6p_1 \geq V(7) + m - 7p_2$

$V(6) - V(7) = -p_1$

$-p_1 \geq -p_2$

$p_2 \geq p_1$

$V(1) - \Delta 2 = V(2) - 2\Delta 2$

$\Delta 2 = V(2) - V(1)$

[∴ Increase in TV due to consumption of one more unit (or 2nd unit) of discrete good.

∴ We can generalise

$\Delta n = V(n) - V(n-1)$

$90 - 80$

10 ——— 10

Reservation price is the price level at which consumer is just indifferent to consuming or not consuming the good.

* Reservation price measures the increment in utility necessary to induce the consumer to choose an additional unit of good.

* Reservation price measure the MU associated with the level of consumption of good 1.

[Note:- Given assumption of Convex preference $[\Delta 1 > \Delta 2 > \Delta 3]$ we have MU > 0 but MU decr as Consump ↑ ∴ Reservation price ↓.]

(*) At x_1 : $U(0, m) = U(1, m - x_1)$

At x_2 : $U(1, m - x_2) = U(2, m - 2x_2)$

for general form of Reservation Price

In case : $U(x_1, x_2) = V(x_1) + x_2$

& $V(0) = 0$

x_1 : $U(0, m) = V(0) + m$

$\hookrightarrow U(1, m - x_1) = V(1) + (m - x_1)$

$\hookrightarrow$ Equate

$\Rightarrow 0 + m = V(1) + m - x_1$

$\Rightarrow V(1) = x_1$

In general: Total utility derived from one unit of discrete good.

x_1 = Total utility deriving from one unit of discrete good

At x_2

$U(1, m - x_2) = V(1) + (m - x_2)$

$U(2, m - 2x_2) = V(2) + (m - 2x_2)$

Equate

$V(1) + m - x_2 = V(2) + m - 2x_2$

$V(1) - x_2 = V(2) - 2x_2$

$\Rightarrow V(2) - 2x_2$