

# 1st CLASS PROGRAM / SOLUTION

$$L_S = 10 + 2W$$

$$L_D = 52 - W$$

- ① EQUILIBRIUM
- ② INTERCEPTS
- ③ GRAPH / MODEL
- ④ TABLE / SCHEDULE
- ⑤ ELASTICITIES

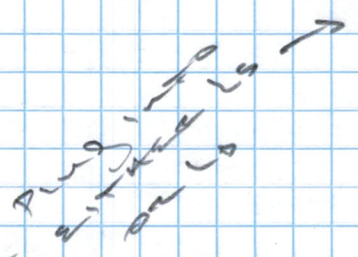
## ① EQUILIBRIUM

$$L_S = L_D$$

$$10 + 2W = 52 - W$$

$$3W = 42$$

$$W^* = \frac{42}{3} = 14$$



$$L_S = 10 + 2(14)$$

$$L^* = 38$$

## ② INTERCEPTS - SET VARIABLES TO 0 TO REVEAL INTERCEPTS ON AXIS

SUPPLY

$$\text{IF } L_S = 0 \rightarrow 0 = 10 + 2W$$

$$2W = -10$$

$$W = -5$$

$$\text{IF } W = 0 \rightarrow L_S = 10$$

DEMAND

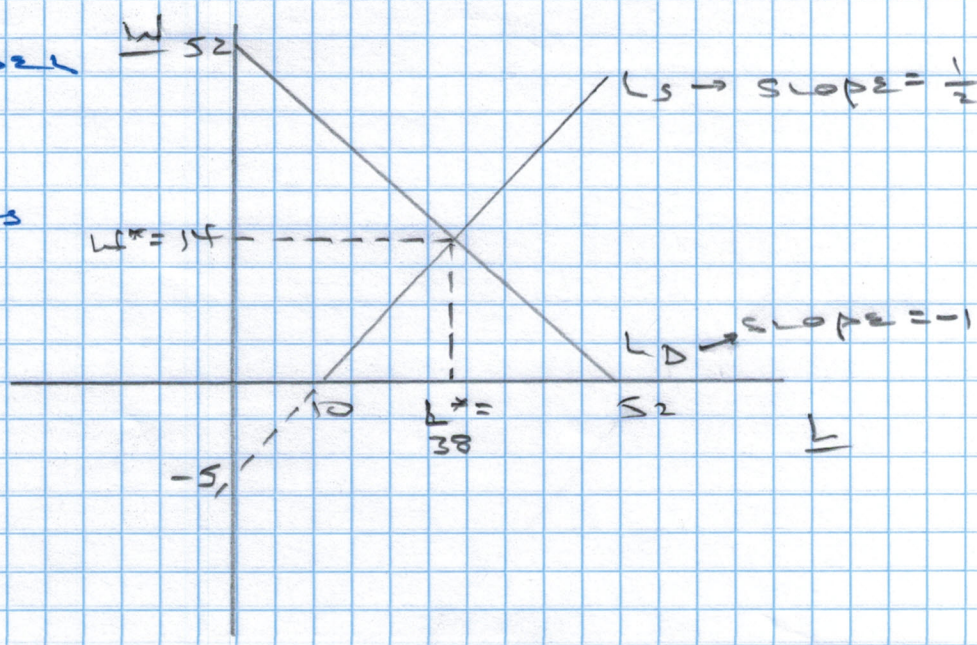
$$\text{IF } L_D = 0 \rightarrow 0 = 52 - W$$

$$W = 52$$

$$\text{IF } W = 0 \rightarrow L_D = 52$$

## ③ GRAPH / MODEL

AS LONG AS YOU HAVE TWO POINTS YOU HAVE THE LINEAR SUPPLY AND DEMAND CURVES



4) TABLE / SCHEDULE - USE EQUATIONS TO REVEAL  $L_s$  AND  $L_d$  AT GIVEN WAGE LEVELS

$$L_s = 10 + 2(W)$$

$$W=1 \rightarrow 10 + 2(1) = 12$$

$$W=2 \rightarrow 10 + 2(2) = 14$$

⋮ ⋮

As  $W \uparrow \rightarrow L_s \uparrow$

$L_s$  IS POSITIVELY SLOPED

$$L_d = 52 - (W)$$

$$W=1 \rightarrow 52 - (1) = 51$$

$$W=2 \rightarrow 52 - (2) = 50$$

⋮ ⋮

As  $W \uparrow \rightarrow L_d \downarrow$

$L_d$  IS NEGATIVELY SLOPED

W	$L_s$	$L_d$
0	10	52
1	12	51
2	14	50
3	16	49
4	18	48
5	20	47
6	22	46
7	24	45
8	26	44
9	28	43
10	30	42
11	32	41
12	34	40
13	36	39
14	38	38

5) ELASTICITY - A  $\Delta$  IN ONE VARIABLE IN RESPECT TO A  $\Delta$  IN ANOTHER

$$E = \frac{\% \Delta L}{\% \Delta W}$$

SIMPLE

MID POINT

$< 1 \rightarrow$  INELASTIC

$> 1 \rightarrow$  ELASTIC

$= 1 \rightarrow$  UNITARY

$$\frac{L_2 - L_1}{L_1}$$

$$\frac{W_2 - W_1}{W_1}$$

$$\frac{L_2 - L_1}{(L_2 + L_1)/2}$$

$$\frac{W_2 - W_1}{(W_2 + W_1)/2}$$

WHAT IS THE ELASTICITY OF DEMAND AS WAGE  $\Delta$ 'S FROM 7 TO 9?

$$W_1 = 7 \text{ (STARTING } W)$$

$$W_2 = 9$$

$$L_1 = 45$$

$$L_2 = 43$$

$$E = \frac{\frac{43-45}{45}}{\frac{9-7}{7}} = \frac{-2/45}{2/7} = \left( \frac{-2}{45} \right) \left( \frac{7}{2} \right) = \frac{-14}{90} = \frac{-7}{45}$$

THESE VALUES FOR  $L_d$  CAN BE TAKEN FROM TABLE OR CALCULATED  
 $W/L_d = 52 - W$

$< 1 \rightarrow$  INELASTIC