7 Feb. 2008

Assignment 1

$P = -\frac{1}{10.000}Q + 26$ | $FC = 250.000$

$PQ = -\frac{1}{10.000}Q^2 + 26Q$ | $VC = 5Q / 3Q / 4Q / 5{,}5Q / 7Q$

$MR = -\frac{2}{10.000}Q + 26$ | $MC = 5 / 3 / 4 / 5{,}5 / 7$

$MR = MC\ (4)$

$-\frac{2}{10.000}Q + 26 = 4$

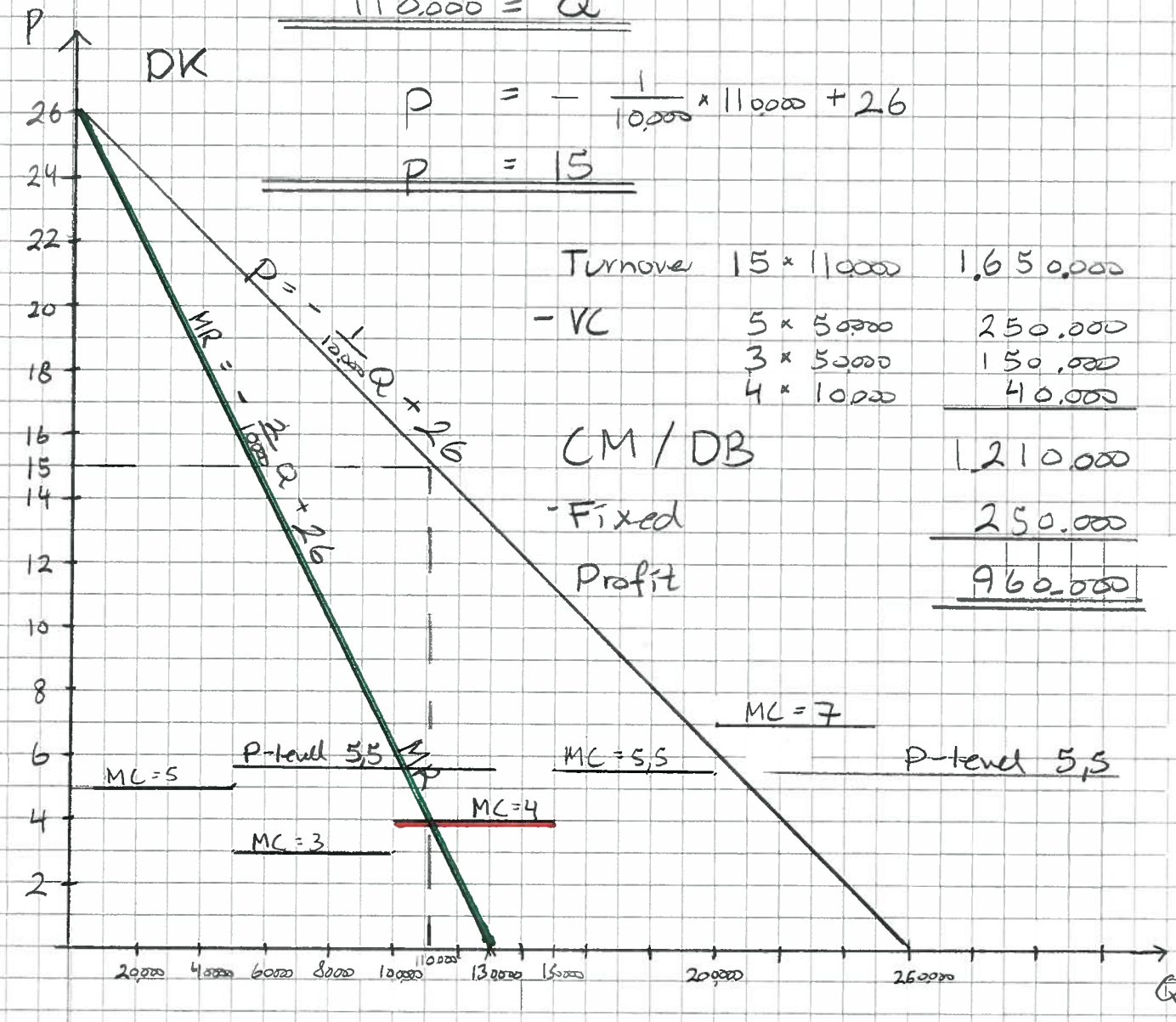
$22 = \frac{2}{10.000}Q$

$220.000 = 2Q$

$110.000 = Q$

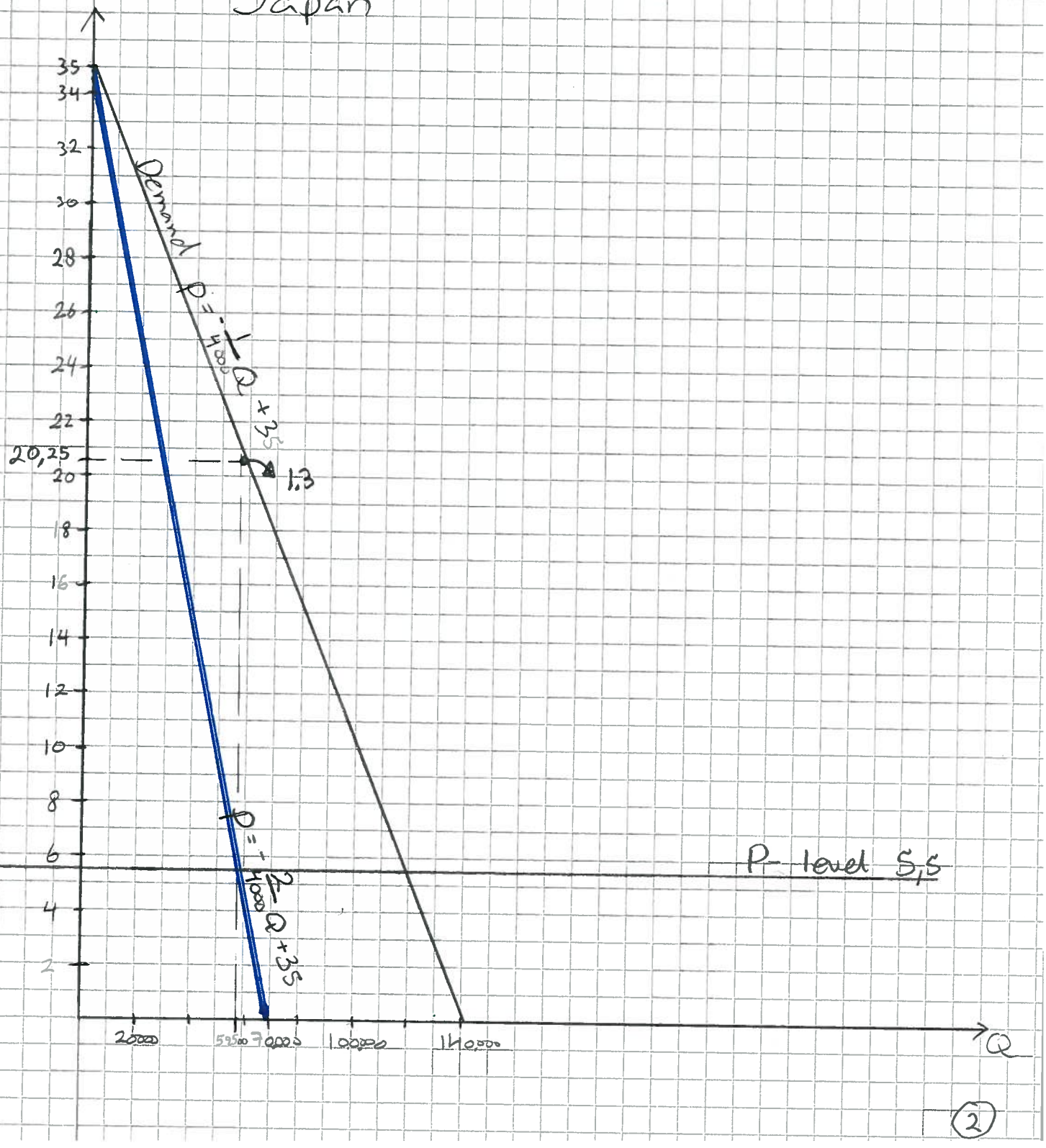
$P = -\frac{1}{10.000} \times 110.000 + 26$

$P = 15$



Turnover	15 × 110.000	1.650.000
- VC	5 × 50.000	250.000
	3 × 50.000	150.000
	4 × 10.000	40.000
CM / DB		1.210.000
- Fixed		250.000
Profit		960.000

1,3


Japan
35
34
32
30
28
26
24
22
20,25
20
18
16
14
12
10
8
6
4
2
Demand P = -1/4000 Q + 35
1.3
P = -1/4000 Q + 35
P- level 5,5
20000
59500
70000
100000
140,000
Q

Fælles MR & MC for DK og Japan

Common MR & MC

Common MR / Fælles MR:

$$P = \alpha Q + b$$

$$\alpha = -\frac{26}{200.000 - 18.000}$$

$$\alpha = -\frac{26}{182.000}$$

$$\alpha = -\frac{1}{7.000}$$

$$0 = -\frac{1}{7000} * 200.000 + b$$

$$28{,}57 = b$$

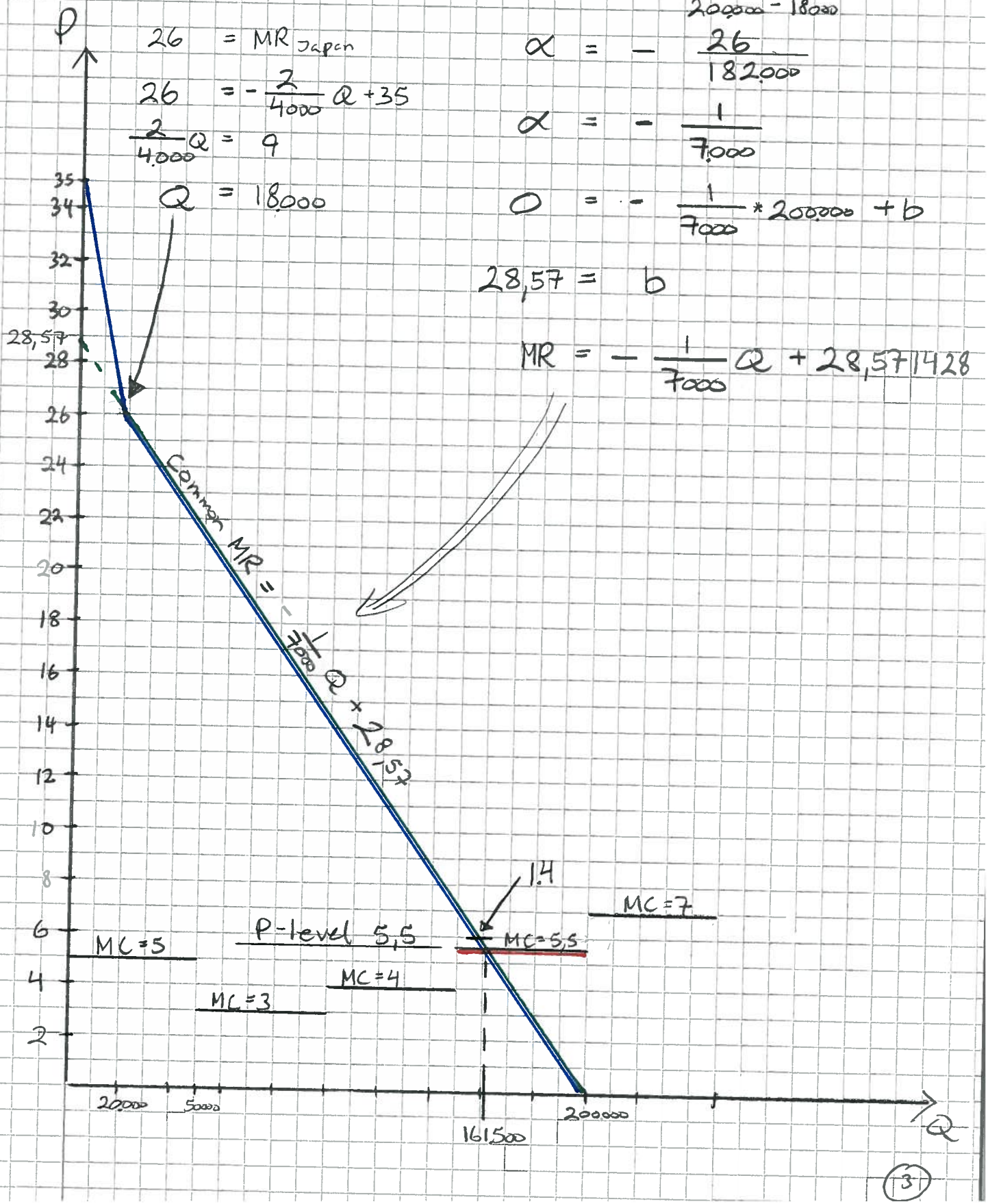
$$MR = -\frac{1}{7000}Q + 28{,}571428$$

$26 = MR_{Japan}$

$$26 = -\frac{2}{4000}Q + 35$$

$$\frac{2}{4.000}Q = 9$$

$$Q = 18.000$$



1.3 Common MR = MC (55)

$$-\frac{1}{7000}Q + 28{,}57 = 5{,}5$$

$$23{,}07 = \frac{1}{7000}Q$$

$$161.500 = Q$$ optimum total quantity

P-level = 5,5

Quantity DK :

P-level = MR_{DK}

$$5{,}5 = -\frac{2}{10.000}Q + 26$$

$$\frac{2}{10.000}Q = 20{,}5$$

$$Q = 102500$$

Quantity Japan

P-level = MR_{Japan}

$$5{,}5 = -\frac{2}{4000}Q + 35$$

$$\frac{2}{4000}Q = 29{,}5$$

$$Q = 59000$$

Price DK :

$$P = -\frac{1}{10.000} \times 102.500 + 26$$

$$P = 15{,}75$$

Price Japan

$$P = -\frac{1}{4.000} \times 59.000 + 35$$

$$P = 20{,}25$$

Oms / Turnover DK	15,75 × 102.500	=	1.614.375
Oms / Turnover Jap.	20,25 × 59.000		1.194.750
Total			2.809.125
- VC	5 × 50.000		250.000
	3 × 50.000		150.000
	4 × 50.000		200.000
	5,5 × 11.500		63.250
CM / DB			2.145.875
- Fixed / Faste omk			250.000
Profit / overskud			1.895.875

1.4

Common MR = 6

$-\frac{1}{7000}Q + 28{,}57 = 6$

$22{,}57 = \frac{1}{7000}Q$

$158{,}000 = Q$ total quantity DK + Japan

$200000 - 158{,}000 = 42000$ Q India

P-level 6,0

Quantity DK

P-level = MR_{DK}

$6 = -\frac{2}{10000}Q + 26$

$\frac{2}{10000} = 20Q$

$Q_{DK} = 100{,}000$

Quantity Japan

P-level = MR_{Japan}

$6 = -\frac{2}{4000}Q + 35$

$\frac{2}{4000}Q = 29$

$Q = 58{,}000$

Price DK:

$P = -\frac{1}{10000} \times 100000 + 26$

$P = 16$

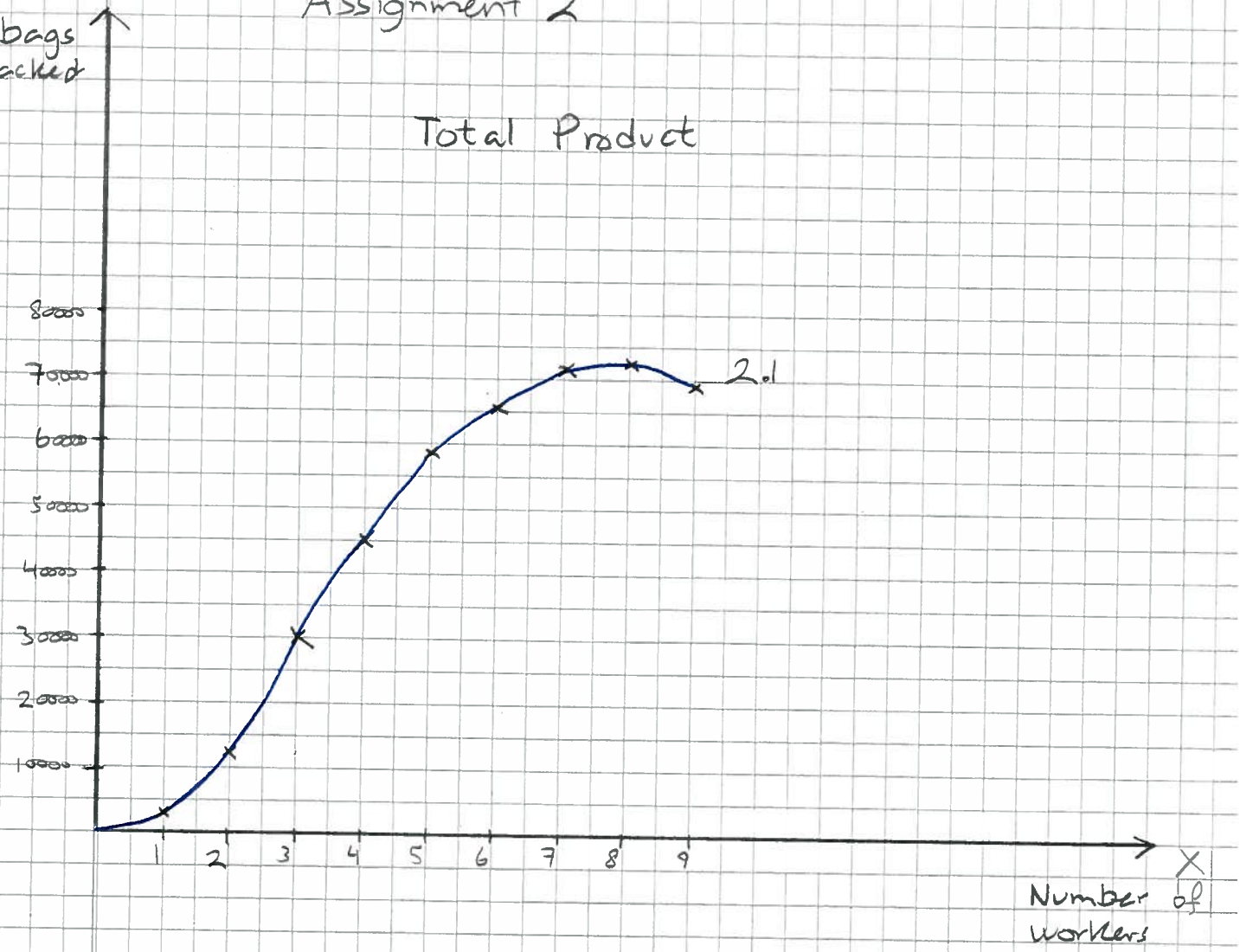
Price Japan

$P = -\frac{1}{4000} \times 58.000 + 35$

$P = 20{,}50$

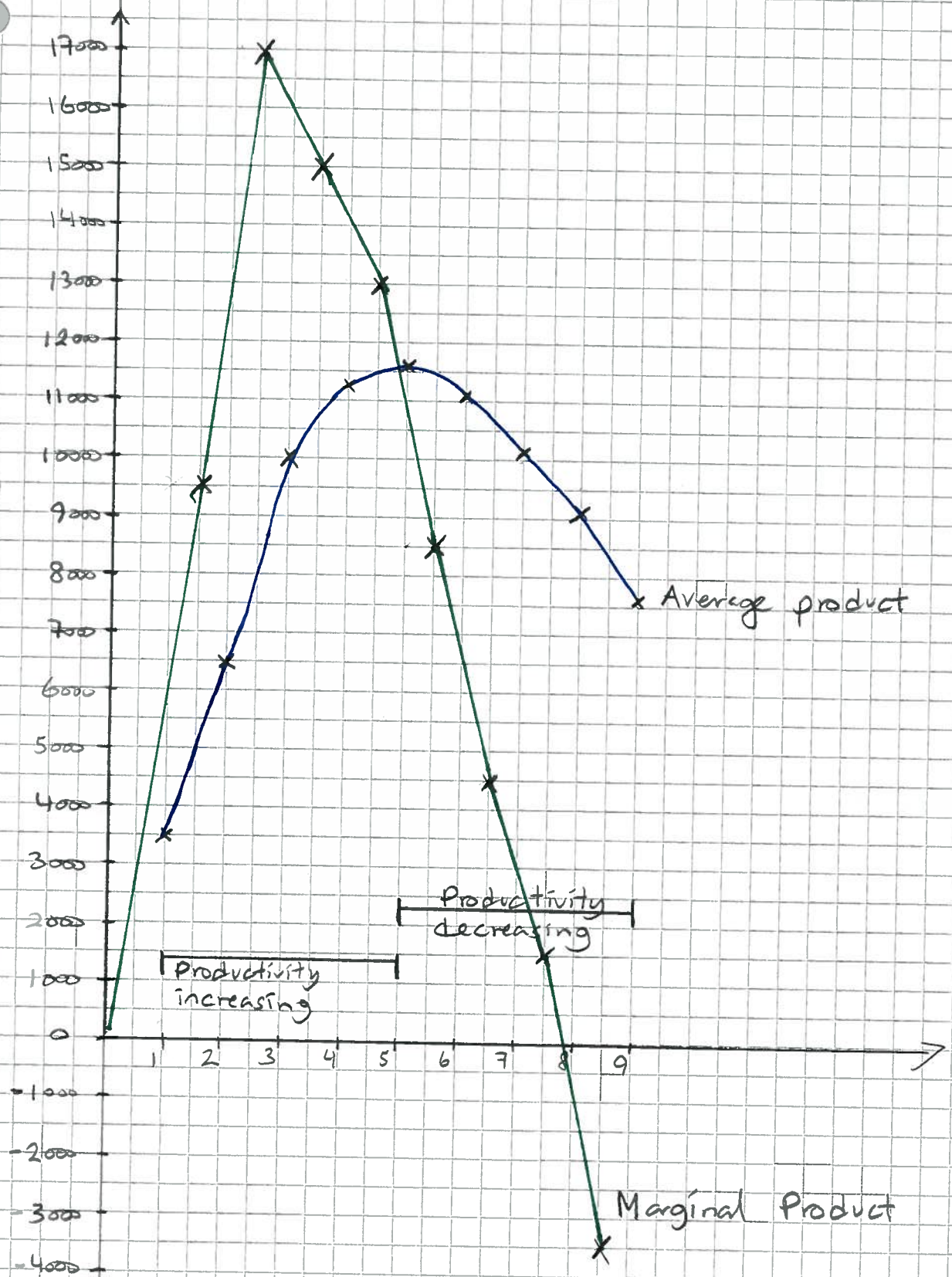
Oms_{DK} / Turnover DK	16 ×	100000	=	1.600.000
Oms_{Jap} / Turnover Jap.	20,50 ×	58.000	=	1.189.000
Oms_{India} / Turnover Ind.	6 ×	42.000	=	252000
Turnover Total				3.041.000
-VO / VC	5 ×	50000		250000
	3 ×	50.000		150000
	4 ×	50.000		200000
	5,5 ×	50.000		275000
DB / CM				2.166.000
-FO / Fixed				250000
Overschud / Profit				1916.000

Assignment 2



Antal medarbejdere	Antal Posen Bags	Average Product	Marginal Product
			0
1	3500	3500	9500
2	13000	6500	17.000
3	30.000	10,000	15.000
4	45.000	11250	13.000
5	58.000	11600	8.500
6	66.500	11083	4500
7	71.000	10143	1500
8	72500	9063	-3500
9	69000	7667	

Assignment 2



2.2 Produktiviteten er voksende fra 0-5 medarbejdere
Produktiviteten er faldende fra 5-9 medarbejdere

2.3/ Prisen på produktet og omkostningerne
2.4 til løn pr. medarbejder

The price at the product
Wages per worker

Assignment 3

	X Luksus	Y Blandede	max	x max. L	Y max B	α	Function
mel	120	80	7200	600	900	$\frac{900}{600} = -1,5$	$Y = -1,5X + 900$
Bage	1,5	0,5	600	400	1200	$\frac{1200}{400} = -3$	$Y = -3X + 1200$
DB/CM	14	7					
Random CM	300 * 14 = 4200	600 * 7 = 4200					

$$\alpha_{slope} = \frac{600}{300} = 2 = \frac{CM\ X}{CM\ Y}$$

$$-1,5X + 900 = -3X + 1200$$

$$1,5X = 300$$

3.1 $\underline{X = 200} \Rightarrow Y = -3 * 200 + 1200 = \underline{600 = Y}$

3.2 $DB/CM = 200 * 14 + 600 * 7 = \underline{7.000}$

3.3

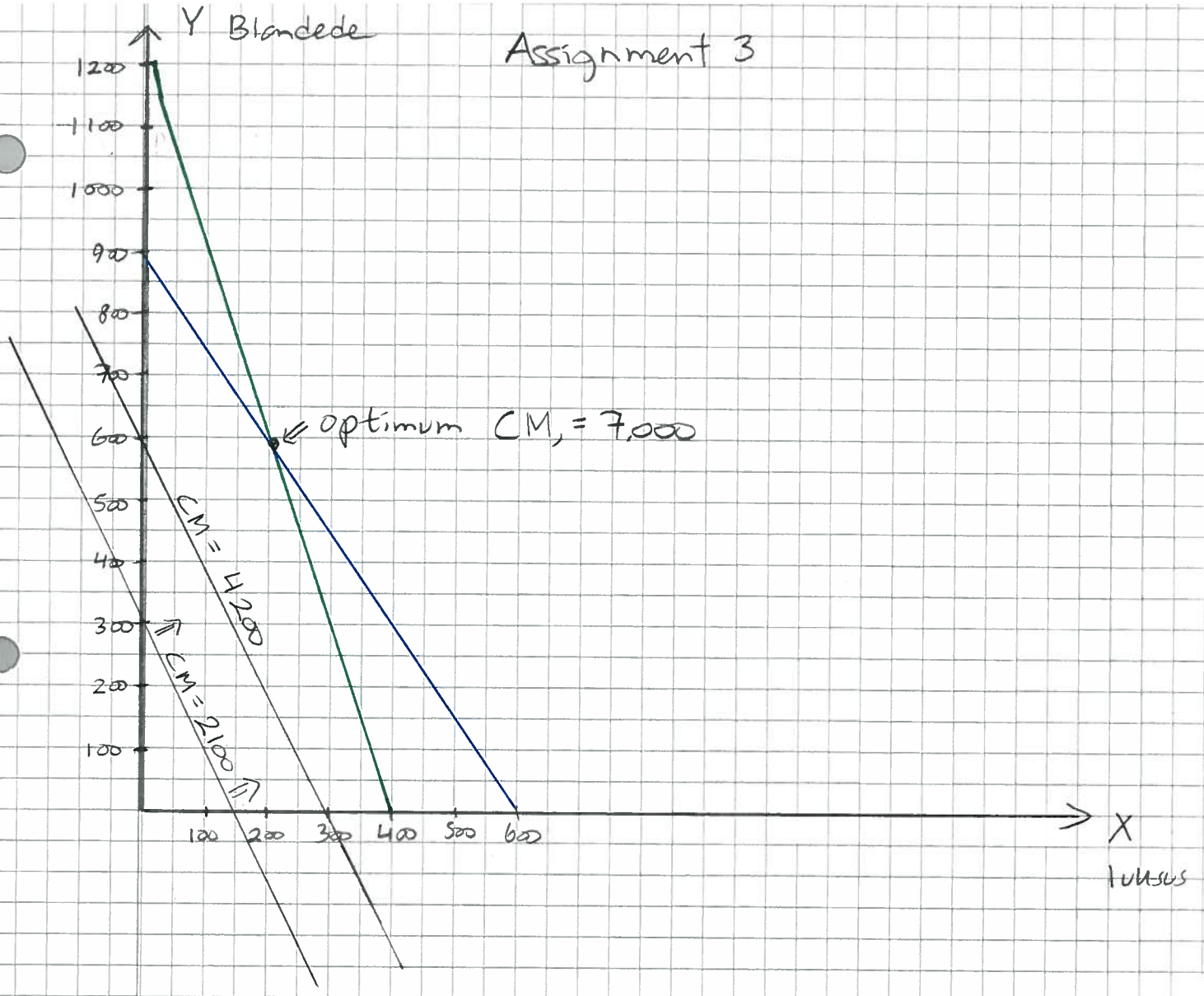
$$\frac{CM\ X}{7} = 1,5 \qquad \frac{CM\ X}{7} = 3$$

$$CM\ X = \underline{10,5} \qquad CM\ X = \underline{21}$$

DB/CM X må ikke være $\leq$ 10,5 for svaret endres.

DB/CM X må ikke være $\geq$ 21 for svaret endres

Assignment 3



Assignment 4

a) opportunity costs ≈ Interest

b) $\text{Price}_{optimum} = MC * \frac{ep_{optimum}}{ep_{optimum} - 1}$

c) Monopolistic competition