TENTAMEN / EXAMINATION

12307683

Fylls i av **student** / *To be completed by the **student***

Skriv anonymiseringskoden på samtliga svarsblad / *Write your anonymity code on each sheet*	Anonymiseringskod / *Anonymity code*	
	N E G B 0 1 - 0 0 3 0 - D N S	
Provbenämning / *Exam name*: Mikroekonomi		Oanmäld:
Kurskod / *Course code*: N E G B 0 1	Modul / *Module*: 2 0 0 0	Tentamensdatum / *Examination date*: 2 0 2 2 - 0 3 - 2 2
Jag har tagit del av regler som gäller vid tentamen / *I have read the current rules for examinations*	☒ Ja / *Yes*	Antal inlämnade blad med anonymiseringskod / *Number of sheets with anonymity code*: 1 0

Fylls i av **skrivvakt** / *To be completed by the **invigilator***

Kontroll av legitimation / *Identification checked*	☒ Ja / Yes	Härmed intygas att kontroller utförts / *This is to certify that the checks have been carried out*
Kontroll av inlämnade blad / *Answer sheets checked*	☒ Ja / Yes	Tydlig sign. / *Signature*
Inlämningstid / *Time of submission*: 1 7 : 2 3		

Fylls i av **lärare** / *To be completed by the **examiner***

Bedömning av uppgifter / Questions attempted

1	2	3	4	5	6	7	8	9	10	~
1,75	2	5	4							
11	12	13	14	15	16	17	18	19	20	~
21	22	23	24	25	26	27	28	29	30	~

Totalt antal poäng / *Total points*: 16,75	Examin. lärare / Kursansvarig signatur / *Signature of the examiner*
Betyg / *Grade*: VG	Namnförtydligande / *Clarification of the signature*

12307683

Försättsbladet ska alltid lämnas in även om ingen uppgift behandlats /
Examination should always be submitted even if no questions are answered

Utskriven 2022-03-15 kl. 09:40:06

NEGB01/NEGB25
2022-03-22

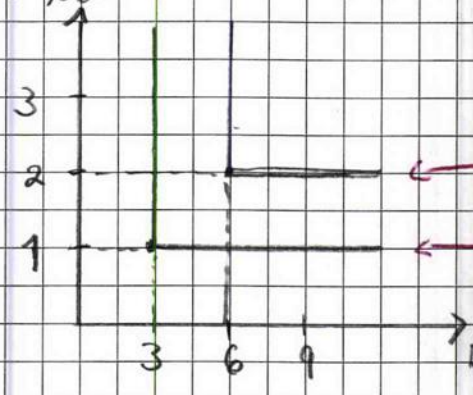
Dinky Daruvala
Microeconomics
Part 1,
Q 1-4

Anonymity code: NEGB01-0030-DNS

Please, write your anonymity code on each answer sheet

One set: 3B, 1N

a) Necklaces $Y = \min\{3B, 1N\}$



R

1

b) Josephines utility function will be:

$Y = \min\{3B, 1N\}$

$U = 3 = B + \frac{1}{3}N$

Amount of sets (Y) is the smaller of the two

Wrong approach
0,5 +0,25

c) Demand function for Josephine:

$m = P_B \cdot 3B + P_N \cdot N$

$\Rightarrow m = P_B \cdot 3(\frac{1}{3}N) + P_N \cdot N \Rightarrow \boxed{m = P_B \cdot N + P_N \cdot N}$

Simplified 1

$\boxed{m = N(P_B + P_N)}$

Ratio between B and N = 3:1

$3B = 1N$

$B = \frac{1}{3}N$

0

a) $U(w) = \sqrt{w}$

(w_A being payoff for crop A
w_B being payoff for crop B)

- Expected Utility for crop A:

$EU(w_A)$: $0,25 \cdot \sqrt{6400} + 0,5 \cdot \sqrt{10000} + 0,25 \cdot \sqrt{6400}$

$= 90$

- Expected Utility for crop B:

$EU(w_B) = 0,25 \cdot \sqrt{3600} + 0,5 \cdot \sqrt{14400} + 0,25 \cdot \sqrt{2500}$

$= 87,5$

Answers 2a): Since Expected utility of A is higher than Expected utility of B,
$EU(w_A) = 90 > EU(w_B) = 87,5$,
Jones will choose crop A.

b) She would need a profit with at least the same Utility as her $EU(w_A)$.
We can basically call her being "risk-neutral".

$U(w) = \sqrt{w} = 90$

$\rightarrow w = 90^2 = 8100$

answers 2b): minimum amount of money for renting out her land is:
8100

a) Returns to scale for $Y = f(K,L) = K^{0,75} L^{0,25}$ are constant. CRS

Since if we double input output will also double.

Easiest way to see this is by looking at exponents being equal to 1. But we can also see by actually doubling input.

$f(K=2, L=2) = 2^{0,75} \cdot 2^{0,25} = 2$ (It is also possible to take 2nd derivative)

$2 \cdot f(K=2, L=2) = (2 \cdot 2)^{0,75} \cdot (2 \cdot 2)^{0,25} = 4$

4 is double of 2, therefore CRS.

b) Marginal products of K and L:

$$MP_K = \frac{dY}{dK} = 0,75 K^{-0,25} L^{0,25}$$

$$MP_L = \frac{dY}{dL} = 0,25 L^{-0,75} K^{0,75}$$

c) Cost minimising for 100 units:

We'll take $\frac{MP_K}{MP_L} = \frac{MC_K}{MC_L}$ ← marginal cost for capital divided by marginal cost of labour.

$C = 3K + L$

$MC_K = 3 \quad MC_L = 1$

$$\Rightarrow \frac{0,75 K^{-0,25} L^{0,25}}{0,25 K^{0,75} L^{-0,75}} = \frac{3}{1}$$

$$\Rightarrow 3 K^{-1} L = 3$$

$$\Rightarrow 3 \cdot \frac{1}{K} \cdot L = 3$$

$$\Rightarrow \frac{3L}{K} = 3$$

$$\Rightarrow 3L = 3K$$

$$\Rightarrow L = K$$

Substitute into prod function

$100 = K^{0,75} L^{0,25}$

$100 = K^{0,75} K^{0,25}$

$100 = K = L$

Answer c) $K = 100$ units
$L = 100$ units

Ange anonymitetskod / *Write your anonymity code*
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(For non-anonymous exams write the course code + name + civic registration number)

NEGBC1-0030-DAVS

Löpande sidnr
Consecutive no:
5

Uppgift nr /
Question no:
3

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

d) $K \cdot w_K + L \cdot w_L = 100 \cdot 3 + 100 \cdot 1 = 400$ R

Lowest cost of 100 units of $y = 400$ 1

e) cost function of output:

$C(100) = 3 \cdot 100 + 1 \cdot 100$ 2

$C(y) = w_K \cdot K + w_L \cdot L$ 0 +0.5

Skriv ej i detta område
Leave this area blank

Ange anonymitetskod / *Write your anonymity code*
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NEGB01-0030-DNS

Löpande sidnr
Consecutive no:
6

Uppgift nr /
Question no:
4

Poäng / *Points awarded:*
4

Lärarens anteckning
Examiner's remarks:

a) Quick burger has a dominant strategy:
- If KS chooses Low price QB has a higher payoff if choosing Low price (750 > 400)
- If KS chooses high price QB has a higher payoff choosing Low price again (1200 > 1000)

QB's dominant strategy is Low price

KS does not have a dominant strategy

R 0,5

b) Nash equilibrium means that given the other vendor's choice of strategy neither would want to switch strategy

The only outcome where neither vendor wants to change their price is

(Low price, High price) in top right corner

If either switches price their profit would be less

R 0,5

c) If vendors do not cooperate outcome will be (Low p, High p) since QB will choose their dominant strategy and KS will choose the strategy for their highest profit. (They have the information from the matrix.).

1

d) The CEO's statement is false. QS dominant strategy would still be Low price.
But KB's choice would now also be Low price, the subsidy increases payoff for KB in (L,L) to 900, which is more than in (L,H)

his dom strategy

2

QB will be worse off since we will be in (Low price, Low price) = (950, 900) - with subsidy
which is less for QB than original:

(Low price, High price) = (1200, 300)

Universitetstryckeriet

Behandla endast en uppgift per sida / *Answer only one question per page*

NEGB01/NEGB25
2022-03-22

Klaas Staal
Microeconomics
Part 2,
Q 5-6

Anonymity code: NEGB01-0030-DNS

Please, write your anonymity code on each answer sheet

	5	6a	6b	6c	6d	6e	6f
NEGB01-0030-DNS	3	1	1	0	0	0	1

Substitution effect:

- Light grey budget line pivots out from point X to grey line passing through point Y.
- The grey line is flatter since we can substitute x_2 for more of x_1
- point X → point Y

Income effect:

- Budget line shifts vertically to the black line passing through point Z.
- A decrease in the price of a good will effectively increase purchasing power. "More income".
- All old budget sets still available
- point Y → Z

Total change in demand:

- point X → Y → Z
- The new (black) budget line crosses two indifference curves but is tangent at Z to the highest possible ind. curve. Therefore that's our new demand.

a) A competitive equilibrium is pareto efficient meaning both consumers are as good off they can be without making the other person worse off. This is good.

The bad thing is if one consumer has a relatively low utility then they cannot be made better off without negatively effecting the other consumer, even if consumer 1 benefits more from being made better off than consumer 2 is being made worse off.

b) The other two markets need to have an excess demand of zero as well

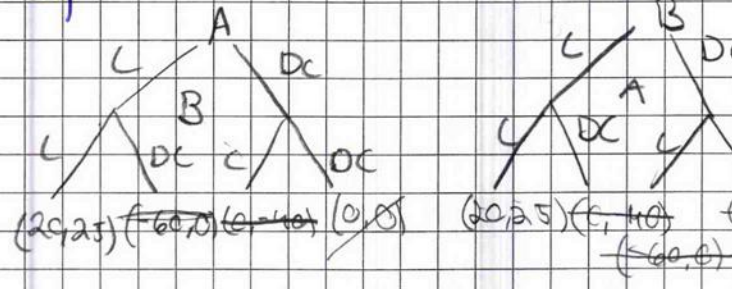
c) Reason 1: Economical "hinder", where the loss in produces surplus heavily outweighs the gain through coasian solution

Reason 2: Political "hinder" where lawmakers have a hard time making a polluting firm pay up / lawmakers not wanting firm to pay for externalities

d) Majority voting will be pareto-efficient when preferences are single-peaked.

Since everyone has the same preferences no one will be made worse off if majority votes for the same thing.

e)



In a sequential game both will be better off by contributing

Player A payoff will be: $20 Player B payoff: $25

f) The Nash equilibriums of the game is:

(C,C) = ($20, $25)

and

(DC,DC) = ($0, $0)

Here neither player would want to defect from their chosen strategy.
Even if contribution have a higher potential payoff neither would chose to contribute if the other didn't also choose to contribute.