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*: NEGB01 - 0007 - ALZ

Provbenämning / *Exam name*: Mikroekonomi

Oanmäld:

Kurskod / *Course code*: NEGB01

Modul / *Module*: 2002

Tentamensdatum / *Examination date*: 2025-03-26

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*: 26

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

Kontroll av legitimation / *Identification checked*: ☒ Ja / Yes

Kontroll av inlämnade blad / *Answer sheets checked*: ☒ Ja / Yes

Inlämningstid / *Time of submission*: 17:53

Härmed intygas att kontroller utförts / *This is to certify that the checks have been carried out*

Tydlig sign. / *Signature*: LS

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

Bedömning av uppgifter / *Questions attempted* — 13,75

1	2	3	4	5	6	7	8	9	10	~
3	5,25	3	2,5							

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*: 19,75

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 2025-03-13 kl. 11:55:22

NEGB01/NEGB25
2025-03-26

Dinky Daruvala
Microeconomics
Part 1,
Q 1-4

Anonymous examination code: NEGB01-0007-ALZ

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Skriv ej i det... *Leave this area bl...*

Uppgift nr / *Question no:* 1

Poäng / *Points awarded:* 3

Lärarens anteckning *Examiner's remarks:*

Fråga 1

a) Svar: it depends on which party that has the highest elasticity, if the elasticity of demand is higher than elasticity of supply, then the producers bear most of the tax, and if elasticity of supply is higher than elasticity of demand, then consumers bear the higher burden of the tax.

R !

b) $\frac{ES}{Ed+ES} = \frac{0,5}{2,5} = 0,2$ 0,5

Svar: 20 % of the tax will be borne by the producers. →

no, 20% paid by the buyers

Uppgift nr / *Question no:* 1

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

Fråga 1 forts

Svar:

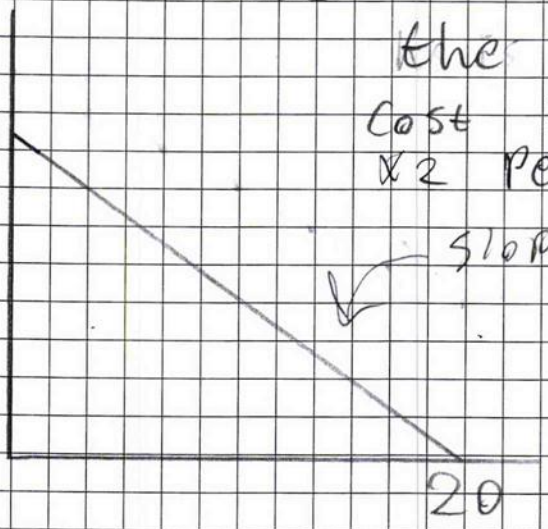
c) in the long run the supply curve will be horizontal, this means that $E_S \to \infty$. This means that the producers can transfer the entire tax burden to the consumers by changing the price on the market so that the consumers pay for the tax as well as for the good. the market price can not adapt to that level in the short run. the producers adapt the market price in the long run so that consumers bears the burden of the tax.

8

1.5

Fråga 2

a) hoverstuckie



Svar:

Opportunity the alternative cost is 0,5 X2 per X1-

slope = − 0,5 (− P1/P2)

max consumption = 100/5 = 20 turnips

slope: − P1/P2

= − 5/10 = −0,5

100/10 = 10 hoverstuckie.

b) because U(X1, X2) = (X1^2 · X2^3 + 12)^3

is a positive monotonic transformation of U(X1, X2) = X1^0,4 X2^0,6

→

You were asked for the budget line equation 0,75

2

R

Fråga 2 forts

b) → both utilities functions represents the same demands and the same indifference curves, only the numbers associated with the utility is changed. both will result in the demands

$x_1 \geq 0,4 \cdot \frac{m}{p_1}$ and

$x_2 = 0,6 \cdot \frac{m}{p_2}$

Svar: because the functions are monotonic transformations of each other.

→

Fråga 2 forts

c) $MRS = \frac{mux_1}{mux_2}$

$mux_1 = 0,4 x_1^{-0,6} \cdot x_2^{0,6}$

$mux_2 = 0,6 x_1^{0,4} \cdot x_2^{-0,4}$

$$\frac{0,4 x_1^{-0,6} \cdot x_2^{0,6}}{0,6 x_1^{0,4} \cdot x_2^{-0,4}}$$

Simplify: $\frac{2}{3} x_1^{-1} \cdot x_2$

$= \frac{2}{3} \cdot \frac{1}{x_1} \cdot \frac{x_2}{1} = \frac{2x_2}{3x_1}$

Så $\boxed{MRS = \frac{2x_2}{3x_1}}$

When bart consumes (2,3)

$MRS = \frac{2 \cdot 3}{3 \cdot 2} = \frac{6}{6} = 1$

R

this means that at this bundle (2,3) →

Fråga 2 forts

→

c) he is willing to give up 1 hourly shake for 1 tupil or vice versa (bytes kvoten mellan varorna är = 1).

Svar: $MRS = \frac{2x2}{3x1}$

(2, 3) ger oss $MRS = 1$.

d) to maximize utility $\frac{MUx1}{MUx2} = \frac{P1}{P2}$ and we know that $MRS = \frac{2x2}{3x1}$

$\frac{2x2}{3x1} = \frac{P1}{P2}$ because this is a cobb-douglas utility function we know that →

setup the max problem.

1,5

Fråga 2 forts

d) → the maximization Problem $\frac{2x_2}{3x_1} = \frac{p_1}{p_2}$

Will give us the demand functions

$x_1 = \frac{0,4m}{p_1}$ and → $\frac{2m}{5p_1}$

$x_2 = \frac{0,6m}{p_2}$ → $\frac{3m}{5p_1}$

These demand functions represents the demand of each good that maximizes parts utility.

Svar: max: $\frac{2x_2}{3x_1} = \frac{p_1}{p_2}$

$x_1 = \frac{0,4m}{p_1}$

$x_2 = \frac{0,6m}{p_2}$ →

Fråga 2 forts

e) Svar: $x_1 = \underbrace{0,4\,m}_{p_1}$

and $x_2 = \underbrace{0,6\,m}_{p_2}$

Means that he will always split his income so that he spends 40% of his income on good 1, and 60% of his income on good 2 → homothetic preferences.

Fråga 3

a)

$C_1 = 10\,000$ $\quad \pi_1 = 0,4$

$C_2 = 2500$ $\quad \pi_2 = 0,6$

$U(W) = \sqrt{W}$

$$EU_{Provision} = 0,4 \cdot \sqrt{10000} + 0,6 \cdot \sqrt{2500}$$

$$= 70$$

EU_{Fixed} must be atleast $\geq EU_{Provision}$.

$$\sqrt{W} = 70$$

$$W = 70^2 \qquad W = 4900 \text{ R}$$

Svar: A wage of minimum 4900.

Fråga 3 forts

b) $C_1 = 10000 - x$

$C_2 = 2500 + 500 = 3000$

$EU_{deal} = EU_{no\ deal}$

$0,4 \cdot \sqrt{10000 - x} + 0,6 \cdot \sqrt{3000} = 70$

$-32,86 \quad -32,86$

$0,4 \cdot \sqrt{10000 - x} + 32,86 = 70$

$0,4 \cdot \sqrt{10000 - x} = 37,14$

$\frac{0,4 \cdot \sqrt{10000 - x}}{0,4} = \frac{37,14}{0,4}$

$\sqrt{10000 - x} = 92,85$

$10000 - x = 8621,12$

$-x \approx -1378,88$

$x = 1378,88$ →

Svar: She would be willing to Pay max ca 1379 Kr

Fråga 3 Forts

c) if she is risk neutral her utility of money is $U(w) = w$.

if there is no deal her utility is 0.

$EU_{deal} \geq EU_{no\ deal}$

$0,6 \cdot (-500) + 0,4 \cdot (X) = 0$

$-300 + 0,4X = 0$

$-300 = -0,4X$

$X = 750$

Svar: She will need at least 750 when Sarah has a good month.

Fråga 4

Svar: Charlene has a dominant strategy to don't clean, this is because her utility of don't clean is the highest independant of Weither Sandra cleans or not. Sandra dose not have a dominant strategy.

a nash ethilibrium is when a certain outcome is the best possible for both. in a nash ethilibrium, there is no Wat to change the outcome in a Wat that makes both Parties better eff. if you make one better off, the other will be worse off.

→

Fråga 4 forts

→ in this game there are two nash equilibrium, and that is (Clean, Clean) in this situation, non can't make one person better off without making the other person worse off. the same goes for the second nash equilibrium (Don't clean, clean). the most likely outcome of this game is (don't clean, clean). this is because charlene will always follow her dominant strategy and choose don't clean, Sandra knows this and will clean as 20>15. the outcome is (30, 20). →

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NEGB01-0007-ALZ

Löpande sidnr *Consecutive no:* 15

Uppgift nr / *Question no:* 4

Poäng / *Points awarded:*

Lärarens anteckning *Examiner's remarks:*

Skriv ej i detta o... Leave this area blank

Fråga 4 forts

→ Yes the outcome is Pareto efficient, this is because You can't change the outcome from there to another outcome that will make both better off. R if You change the outcome, one Part atleast will get worse off. both are Plating their strategies to get as good off as possible. Given their expectations about the other persons choice.

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

NEGB01/NEGB25
2025-03-26

Henrik Jaldell
Microeconomics
Part 2,
Q 5-10

Anonymous examination code: NEGB01-0007-ALZ

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Part 2:

Fråga 5

$U(0, m) = 50 \cdot 0^2 + 0{,}02 \cdot (400^2)$

$U(1, m-r) = 50 \cdot 1^2 + 0{,}02 \cdot (400-r)^2$

$50 \cdot 0^2 + 0{,}02 \cdot (400)^2$

≥ 3200

$3200 \geq 50 \cdot 1^2 + 0{,}02 \cdot (400-r)^2$

$-50 \quad -50$

$3200 \geq 50 + 0{,}02 \cdot (400-r)^2$

$3150 \geq 0{,}02 \cdot (400-r)^2$

$\frac{3150}{0{,}02} \geq \frac{0{,}02 \cdot (400-r)^2}{0{,}02}$

$157\,500 \geq (400-r)^2$ | (square roth both sides)

$-400 \quad -400$

$396{,}863 \geq 400 - r$

$-3{,}137 \geq -r$

$r \geq$ Ca $3{,}137$ →

Svar: $r \geq$ ca $3{,}137$

(for one piece of candy).

Fråga 6

Svar:

homothetic Preferences - means that the same proportion of income is spent on each good independant of if income increases - for example cobb-douglas between apples and bananas $U(A, B) = A^{0.5} \cdot B^{0.5}$ means that he will always spend 50 % of his income on apples and 50 % of his income on bananas

→ Engel curve is a straight 45° line.

Quasilinear Preferences

Svar: is the case if one of the goods in a utility function is income independant. →

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Löpande sidnr / *Consecutive no:* 4

Uppgift nr / *Question no:* 6

Poäng / *Points awarded:*

Lärarens anteckning / *Examiner's remarks:*

Skriv ej i detta fält / *Leave this area blank*

Fråga 6 forts

→ for example on quasilinear preferences: $U(x, y) = \sqrt{x} + y$

where x will be income independant which means that the same amount of x is always bought independant of if his income changes. Only price changes can change his consumption of x where income.

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Uppgift nr / *Question no:* 7

Poäng / *Points awarded:* 1,5

Lärarens anteckning *Examiner's remarks:*

Skriv ej i detta / *Leave this area blank*

Fråga 7.

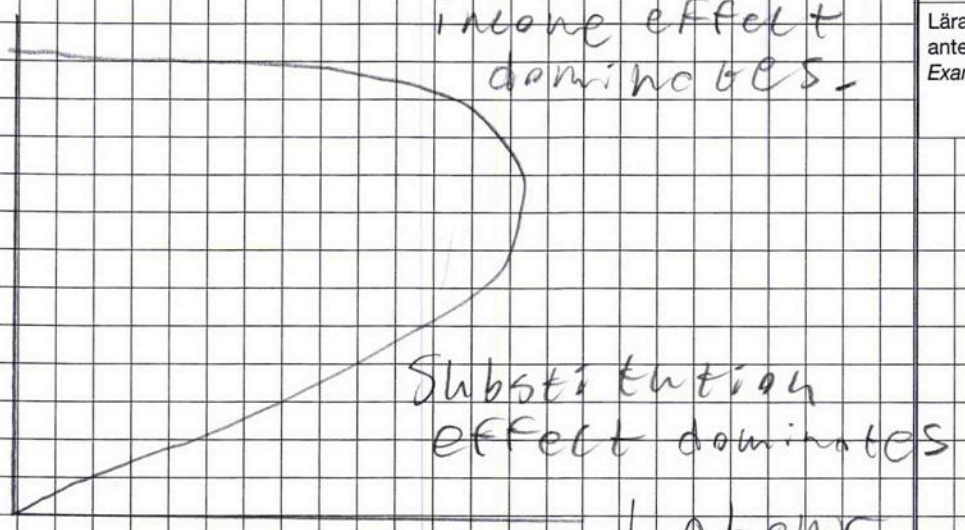
Svar: if we have a slutsky equation of Leisure (fritid)

$$\frac{\Delta R}{\Delta m} = \frac{\Delta R^S}{\Delta m} + \frac{\Delta R^M}{\Delta m} \quad (R+R)$$

the substitution effect will be negative, which means that she will trade Leisure to Labour which gives higher income. but the income effect is positive, which means that when her wage gets high enough she will prefer more Leisure to more Labour. this means that depending on if the substitution effect dominates or the income effect dominates, the person will work more or less as wage/income increases →

Fråga 7 forts

Wage



When the line is upwards sloping, $\frac{\Delta R^s}{\Delta m}$ dominates → she will work more and decrease Leisure.

When the line is backwards sloping = $\frac{\Delta R^m}{\Delta m}$ dominates

→ she will prefer to have more leisure instead of working more and have a higher income.

→

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NEGB01-0007-ALZ

Löpande sidnr *Consecutive no:* 7

Uppgift nr / *Question no:* 8

Poäng / *Points awarded:* 0,175

Lärarens anteckning *Examiner's remarks:*

Skriv ej i detta fält / *Leave this area blank*

Fråga 8

Svar: definition of externalities: When one firms production or one consumers consumption are affecting another firms or consumer in some way and the affected firm or consumer cares about it. och ingen kulle (tillräcklig) kompensa

the coase theorem states that if property rights are well defined and transactions costs are low, then two parties can always negotiate and solve for the externality independant of which party that has the property rights.

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NEGB01-0007-ALZ

Löpande sidnr *Consecutive no:* 8

Uppgift nr / *Question no:* 9

Poäng / *Points awarded:* 0,75

Lärarens anteckning *Examiner's remarks:*

Skriv ej i detta / *Leave this area blank*

Fråga 9

Svar: This expression is relevant when it comes to public goods (pure public goods) and it means that the sum of the marginal benefit for two individuals of buying / consuming a pure public good should be equal to the marginal cost of buying/consuming the pure public good. if X is a public good for individuals A and B and Y is their consumption of private goods then →

$$\frac{MU_{X_A}}{MU_{Y_A}} + \frac{MU_{X_B}}{MU_{Y_B}} = MC_{A+B}$$

the sums of the trade off between the public good and private goods →

⇒ definition?

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NEGB01-0007-ALZ

Löpande sidnr
Consecutive no:
9

Uppgift nr /
Question no:
9

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

Skriv ej i detta
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Fråga 9 forts

→ for the two individuals A and B should be equal to the MC of the public good if both parties should be better off by the consumption of the public good.

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NEGB01-0007-AL2

Löpande sidnr
Consecutive no:
10

Uppgift nr /
Question no:
10

Poäng / *Points awarded:*
0,5

Lärarens anteckning
Examiner's remarks:

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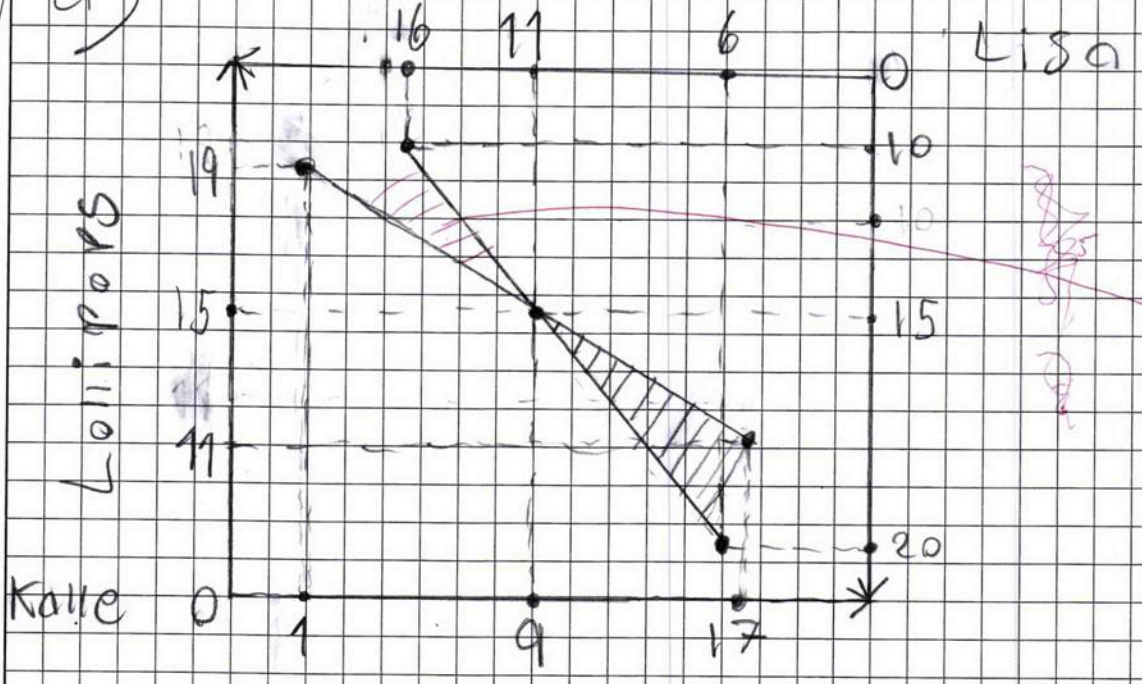
Fråga 10

Svar: ↙

a)



? 30 lollipops

better off than

?

b) Svar: Yes it is possible that they are both better off than the South east of the original endowment Point, so that can trade and be better of in the area in the edgeworth box.

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Fråga 10 part 2 forts

→ c) Kalle is willing to sacrifice 5 caramels to gain 3 Lollipops so the relative price would be: $\frac{3}{5} = 0,6\,L/C$

and $\frac{5}{3} = 1,67\,C/L$

Lisa is willing to sacrifice 4 Lollipops for 5 more caramels, so the relative price would be: $\frac{5}{4} = 1,25\,C/L$ ok

and $\frac{4}{5} = 0,8\,L/C$

the prices of trading must lay between these, so the prices must be:

Svar → $0,6\,L/C < P_{L,C} < 0,8\,L/C$

and $1,25\,C/L < P_{C,L} < 1,67\,C/L$