These pages are a direct copy of a Zoom lecture on 11/19/20. They show how to solve the permit trading makeup exam. An error in Firm 2's profit function in the Zoom lecture (marked in red in the Zoom lecture) has been corrected here.

Maheup Germit Irading Exercise

Product price P=40

Odd firmt caste C(Q) = Q $3(A)^2$ Even finn coste C(Q) = Q A^2

NC(Q)=1 MAC = 6 A

Odd marginals Even marginals

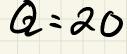
MC(G) = 1NAC = 2A

Bermiles Buy Px = 36 Sell Px = 26

How much will firms produce?

Odd firm marginal cost $\leq 1 + l_x = 37$

so firm will produce at consist because 37 470 Therefore



some analysis for even firms

Will odd firm be a buyer or seller. To sell a permit the firm must abole 11. MAC, (11) = 66 - 26 10 firm odd will buy permits Intuitive analysis. Fim odd will above until MAC (A) = 36, 6A = 36, A = 6, firm odd will buy X=4 permits

More formal analysis is to work from the profit function

 $\Pi_{x}(a,x) = Pa - \theta - P_{x}X - 3(\theta - 10 - x)^{2}$

Q = 20 $T_{1}(x) = P \cdot 20 - 20 - P_{x} \times -3(10 - x)^{2}$

 $\frac{\Delta \Pi}{\Delta X} = -\frac{P_{X}}{F_{X}} - 6(10 - x)(-1) = 0$

6 (10-x) = 36

(10 - x) = 6

x = 4

Intuitive analysis for even

firm. Voen firm sells.

to even fim abotte until

MAC is equal to selling price

MAC(A) = 2A = 26

A = 13 Ao fim even sella 3

permito

More formal analysis for even. Brojit function

 $\Pi_{*}(x) = P_{*}^{2} O - 2O + P_{x}^{2} X - (20 - 10 + x)^{2}$

et = D $\frac{A''}{AX} = l_{2} - 2\{10 + X\}$ $= l_{x}^{2} - 2(10 + x) \stackrel{\text{let}}{=} 0$

 $= l_{x} - 20 + X = 0$

 $1'_{x} - 20 = 2x$ 6 = 2×

k = 3

Thadney slip odd

Buyle # 101 heller # 0

Price per permit 36

buyers name

fillers name

Cernits

Whomsoever

Instructor

6

Chuduction report

Firm # 101 Man Mhonsoever another produced 20 Cermits on hand 14 6 abstement bermits bought Jutal paid ケ 4x36=144 Gernets sold 0 Total preved D -144 Met revenue

Trading slipe

Buper number

feller 11

Orice per

102 26

0

Buyer name

heller mine

Instructor

Whomsverer

tt permits



Enduction report

Firm H 102

Name of student

Accounting

Sermits

abatement

Cents bargt Bard

Deants sall

Berewied

Met serve

Mionrosvic

20 7

13 0 6

3 79

78