Lecture 4

Finding MR Function from AR Function

AR = 15 – Q

TR = AR \* Q = (15 - Q)\*Q = 15Q -

MR = = 15 – 2Q

TR we can apply the product rule

MR (1)

(2) =>

this gives an important relationship between MR and AR: they will always differ by the amount

; ;

the slope of the AR => AR

At pure competition:

J AR – is horizontal line and

*f ‘ (Q) =* 0

MR – AR = 0 = >

H G MR = AR

Imperfect competition:

AR – downward sloping

K *f ‘ (Q) <* 0 => (2)

O N M Q

MR – AR < 0 for all positive Q, MR curve lie below AR curve

The slope of tangent line

=> the distance, by which the MR curve must lie below the AR curve at output N.

Quotient Rule

Relationship between MC and AC Functions

As our economic application if the quotient rule, let us consider the rate of change of AC when output varies:

the rate of change of AC:

The economic meaning of (3) => the slope of the AC curve will be positive, zero, or negative if and only of the MC curve lies above intersects, or lies below the AC curve

MC MC

AC

AC

60

24

0 6 Q

36 - 12\*6 + 60 = 36 – 12 = 24