

## The Basics of Competition

$$MC = P$$

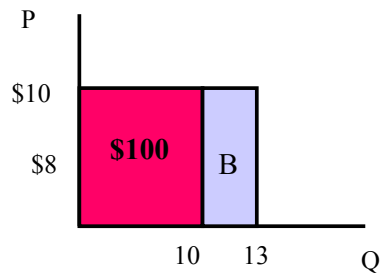
## The Competitive Market

- The competitive firm is a *price-taker*.

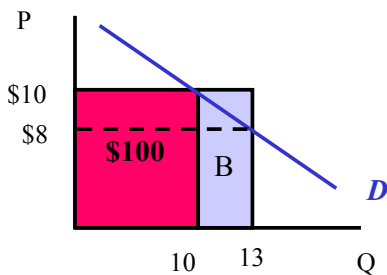
## The Competitive Market

- The competitive firm is a price-taker. It
  - Can sell all it produces at the going market price
  - Has no control over the market price

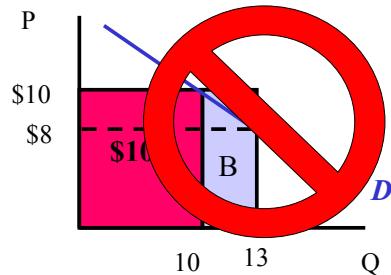
## The Graphics of Price Taking



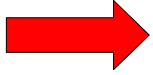
## The Graphics of Price Taking



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### The Mathematics



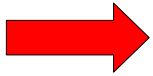
$$\pi = pq - C(q)$$
$$\frac{d\pi}{dq} = p - C'(q) = 0$$
$$C'(q) \equiv MC = p$$

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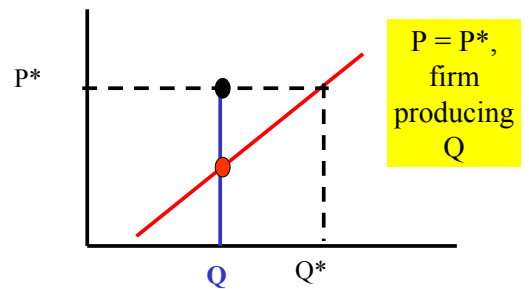
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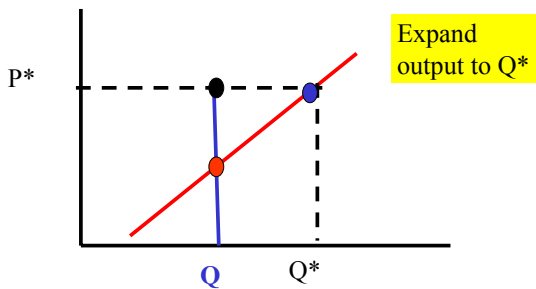


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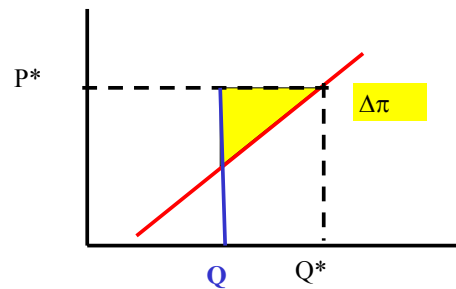
### A Graphical Interpretation



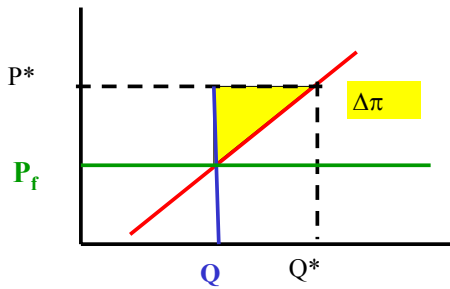
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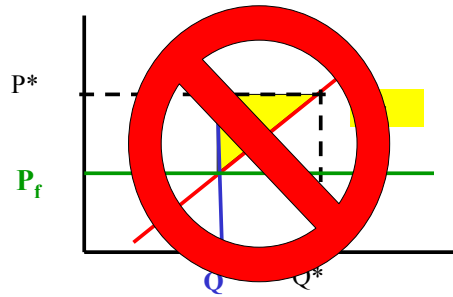
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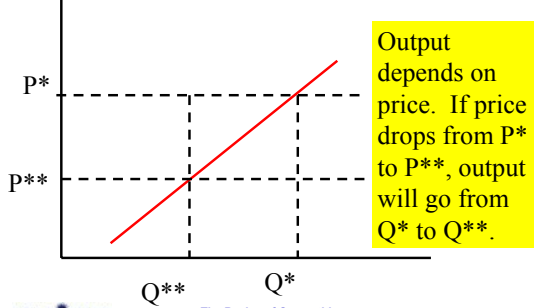
### A Graphical Interpretation



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Output depends on price. If price drops from  $P^*$  to  $P^{**}$ , output will go from  $Q^*$  to  $Q^{**}$ .

### A Tabular Interpretation

Q	TC	MC
0	100	
1	115	15
2	126	11
3	136	10
4	148	12
5	165	17
6	186	21
7	217	31
8	256	39
9	306	50
10	360	54

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- MC first falls and then rises.

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P	Q*
31	7
39	8
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54	10

## A Mathematical Interpretation

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$$5 + 2Q = P$$

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$$Q = (\frac{1}{2})P - 2.5$$

## Some key propositions

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End

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