Review For Midterm 2

Exam 2 covers Chapters 6, 7, 8, 9, and 11.

Review For Midterm

There are 8 multiple choice questions (5 pts each), 1 mandatory long answer question (30 pts), and 2 long answer questions (30 points each), of which you choose one.

Chapter 6

- Firm
- Production function
- Marginal Product
- Isoquant
- Rate of Technical Substitution (RTS)

Chapter 6

- Technical progress
- Returns to scale
- Fixed-proportion production function

Chapter 7

- Economic costs
- Sunk costs
- Opportunity costs
- Accounting costs
- Wage rate
- Rental rate
- Economic Profit

Chapter 7

- Expansion path
- Average cost
- Marginal cost
- Disceconomies of scale
- Economies of scale
- Short run
- Long run

Chapter 7

- Fixed costs
- Variable costs

Chapter 8

- Marginal revenue
- Price taker
- Marginal revenue curve
- Short run supply curve
- Shutdown price

Chapter 9

- Equilibrium price
- Short run market supply curve
- Short run elasticity of supply
- Constant cost case
- Increase cost case
- Consumer surplus
- Producer surplus

Chapter 9

- Ricardian rent
- Economically efficient allocation of resources
- Tax incidence theory
- Deadweight loss
- Tariff

Chapter 11

- Barrier to entry
- Natural monopoly
- Monopoly rents

Chapter 6

- MPL=$\frac{\partial q}{\partial L}$
- MPK=$\frac{\partial q}{\partial K}$
- RTS=$\frac{MPL}{MPK}$

Chapter 7

- $TC = wL + vK$
- $\pi = TR - TC = pq - wL - vK$
- $\pi = pf(K, L) - wL - vK$
- RTS$=\frac{w}{v}$
- $TC(L, K) \implies TC(q)$
- $AC = \frac{TC}{q}$
- $MC = \frac{\partial TC}{\partial q}$

Chapter 8

- MR=MC
- P=MR
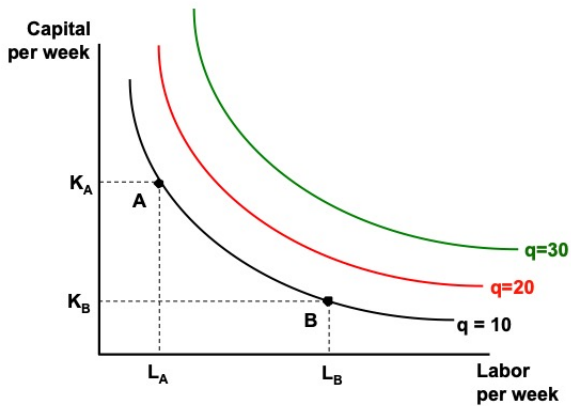- $MR = \frac{\partial TR}{\partial q}$
- $P < AVC$
- $P < AC$

Chapter 9

- Welfare calculations
- Tax incidents
- Solving supply and demand
- International trade

Chapter 11

- MR=MC
- DWL

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Isoquant Map

Review For Midterm 2
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Chapter 6
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Chapter 9
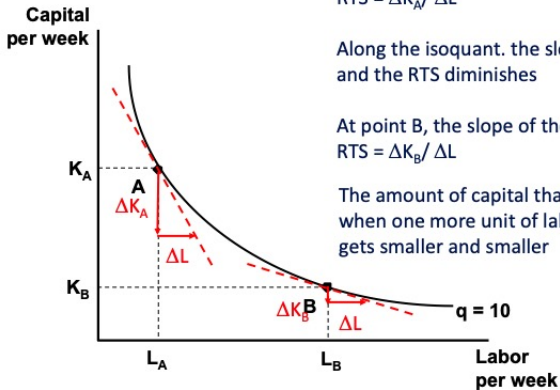Chapter 11

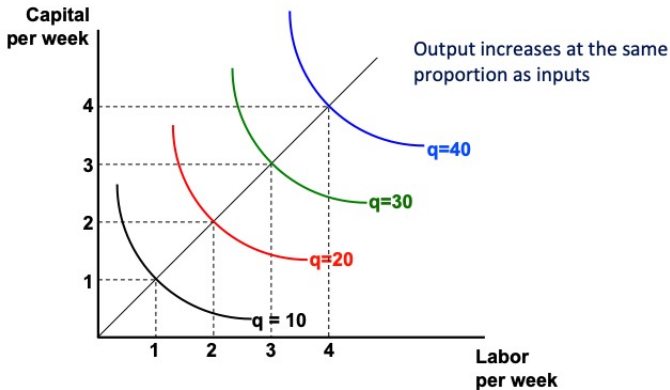# Rate of Technical Substitution

At point A, the slope of the isoquant =
RTS = $\Delta K_A / \Delta L$

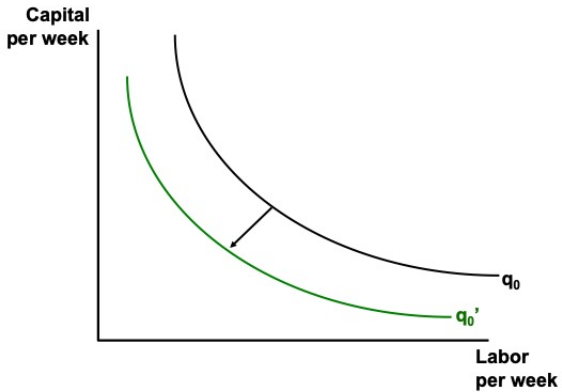Along the isoquant. the slope gets flatter
and the RTS diminishes

At point B, the slope of the isoquant =
RTS = $\Delta K_B / \Delta L$

The amount of capital that can be given up
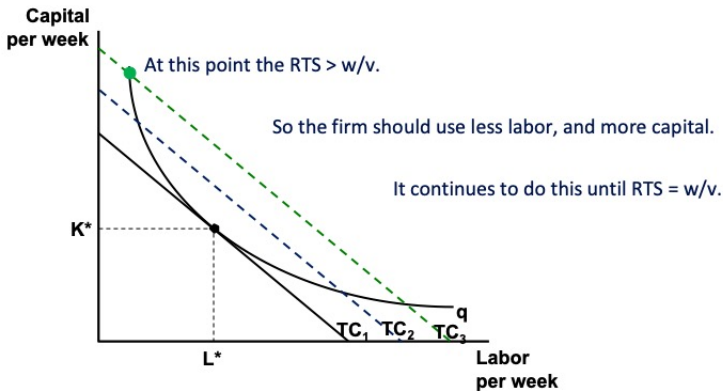when one more unit of labor is employed
gets smaller and smaller

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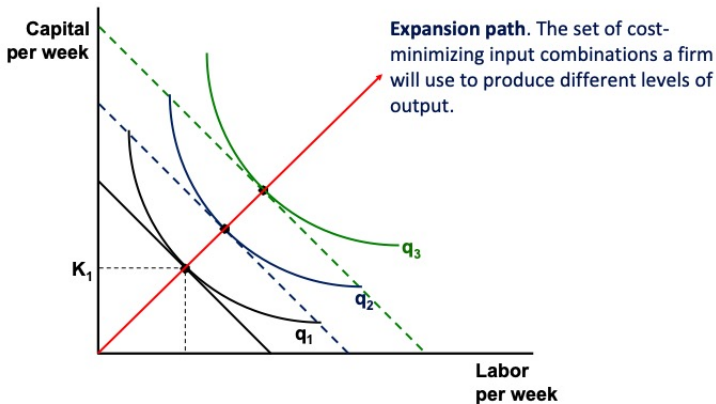Key Words
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Constant Returns to Scale

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Changes in Technology

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Cost Minimizing Input Choice: Graphical Approach

Capital per week

At this point the RTS > w/v.

So the firm should use less labor, and more capital.

It continues to do this until RTS = w/v.

K*

q

TC₁ TC₂ TC₃

L*

Labor per week

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The Firm's Expansion Path

Capital per week

Expansion path. The set of cost-minimizing input combinations a firm will use to produce different levels of output.

K_1

q_3

q_2

q_1

Labor per week

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Cost Curves: Constant Returns to Scale

Total Cost

TC

As output expands, costs expand proportionally.

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Cost Curves: Decreasing Returns to Scale

Total
Cost

TC

Costs expand more rapidly than output.

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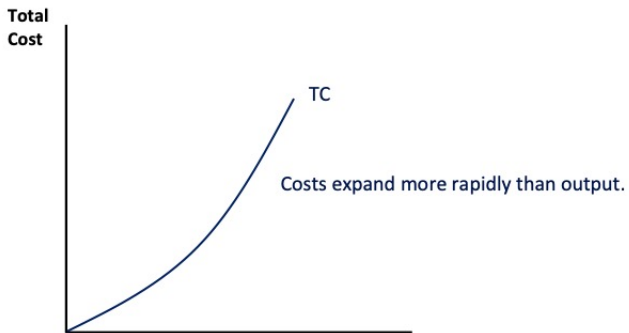
Average and Marginal Cost Curves:
Constant Returns

AC, MC

As output expands, MC and AC remain the same.

————————————————————————— AC, MC

Quantity
per week

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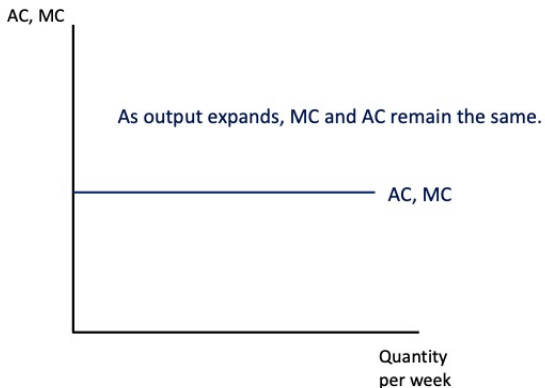
Average and Marginal Cost Curves:
Decreasing Returns

As output expands, both MC and AC increase.

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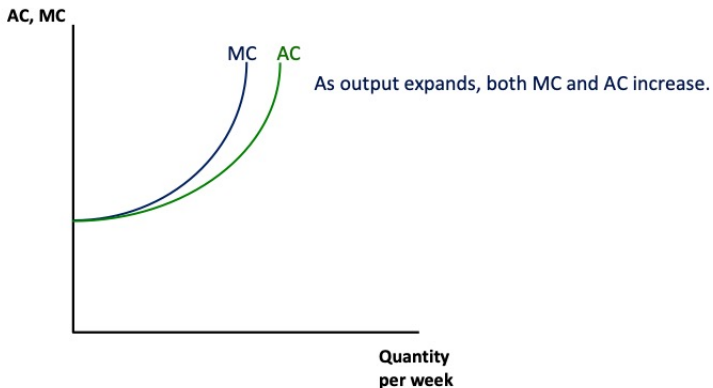
Average and Marginal Cost Curves: Optimal Scale

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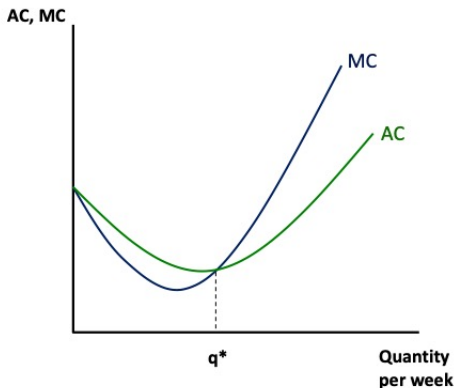
Supply Decision for a Price Taking Firm

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Economic Profit: P* > SAC

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Economic Loss: P* < SAC

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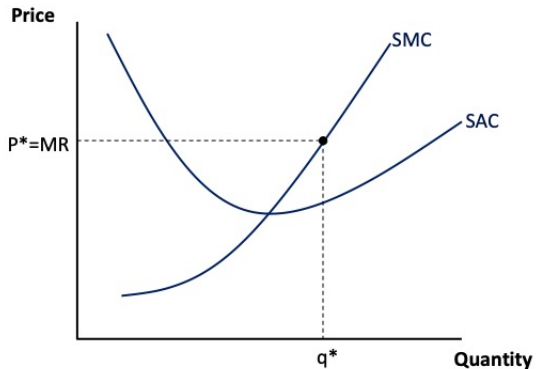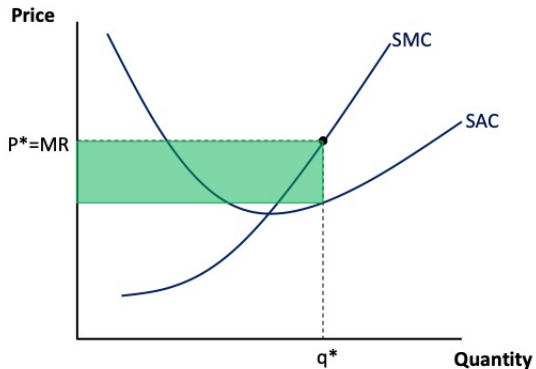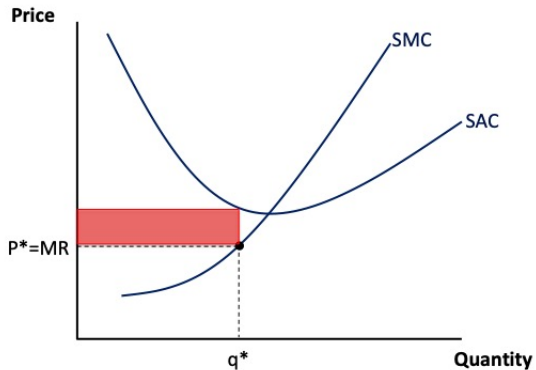
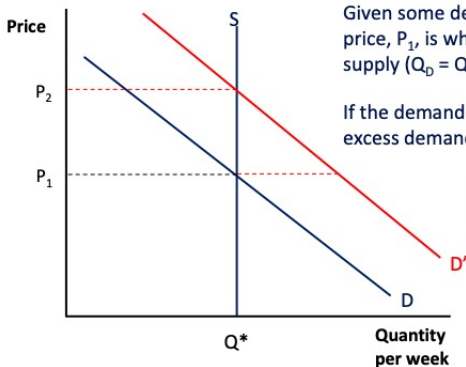# Pricing In The Very Short Run

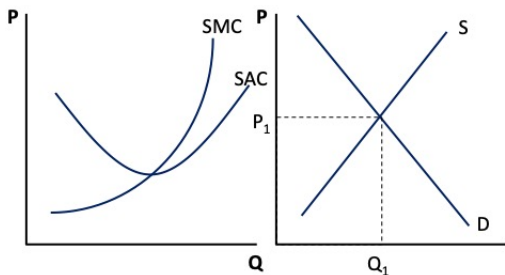In the very short run supply is <u>fixed</u> at Q*.

Given some demand, D, the equilibrium price, P_1, is where demand intersects supply ($Q_D = Q_S$).

If the demand curve increases there is excess demand at P_1.

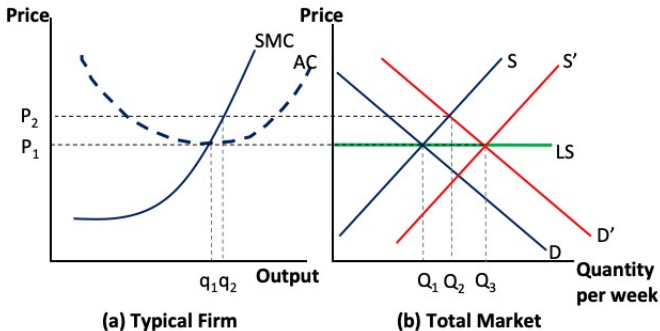To <u>ration</u> the quantity available, price must rise to P_2.

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Short-Run Price Determination

Typical Firm   **The Market**

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Long Run Supply: Constant Costs

A market in which entry or exit has no effect on costs.

(a) Typical Firm

(b) Total Market

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Welfare Economics

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Chapter 7
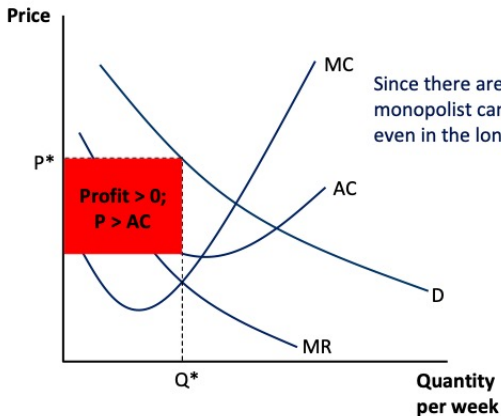Chapter 8
Chapter 9
Chapter 11
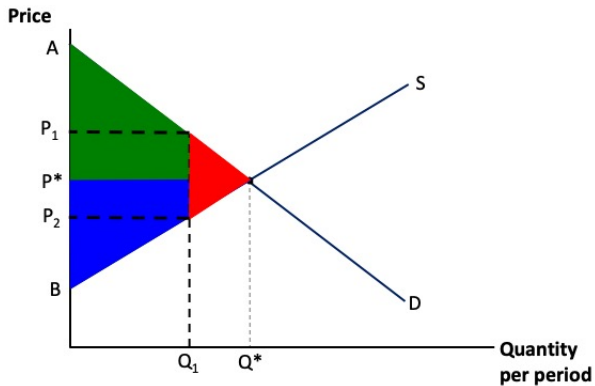
Profit Maximization in a Monopoly
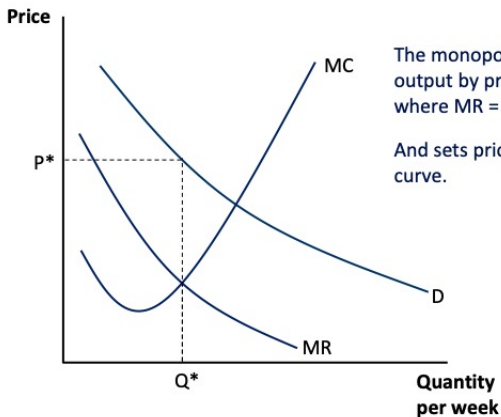
The monopolist maximizes output by producing an output where MR = MC.

And sets price off the demand curve.

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Economic Profits For A Monopoly