Session 03-06 - Mock Exam 03

Section 03: Functions as Business Models

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Welcome

Mock Exam Overview

Today's Session

Mock Exam 03

- Format: 90 minutes, 50 points covering Sections 01–03
- Structure: 2 problems with progressive difficulty
- Focus: Functions and their business applications
- Permitted aids: non-programmable calculator, drawing instruments
- Strategy: Apply systematic approaches to function problems

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> Time Management
>
> - Problem 1 (Business Application): ~45 minutes
> - Problem 2 (Function Analysis): ~45 minutes
> - Secure foundation points first, then tackle challenging parts

Success Strategies

Final reminders

- Read carefully: Every word in the problem matters
- Show all work: Partial credit is available
- Label clearly: Units, variables, and graphs
- Time management: Don't get stuck on one part
- Business sense: Results should be realistic

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> Remember
>
> This exam tests your ability to model and solve business problems using functions. You have all the tools you need!

Coffee Break - 15 Minutes

Homework Presentations

Solutions from Tasks 03-05

20 minutes - discussion and questions

- Show composition challenges
- Discuss inverse function strategies
- Share approaches to multi-step problems
- Review any complex business models

Section 03 Review

Problem-Solving Framework

Apply this systematic approach

1. Understand: Read carefully, identify given information
2. Plan: Choose appropriate function model
3. Execute: Apply formulas and techniques systematically
4. Verify: Check mathematical and business validity
5. Interpret: Explain meaning in context

Core Formulas I

Your essential toolkit

Linear Functions:

- Slope-intercept: $y = mx + b$
- Equilibrium: Set supply = demand
- Break-even: $R(x) = C(x)$

Quadratic Functions:

- Vertex: $x = -\frac{b}{2a}$
- Vertex form: $f(x) = a(x - h)^2 + k$

Core Formulas II

Your essential toolkit

Transformations:

- Vertical shift: $f(x) + k$
- Horizontal shift: $f(x - h)$

Composition:

- $(f \circ g)(x) = f(g(x))$

Next Session

Next Session Preview

Session 04-01: Polynomial Functions

Advanced Functions Begin!

- Discuss Mock Exam 03 solutions
- Address any remaining Section 03 questions
- Introduction to polynomial functions
- Higher-degree optimization
- Complex business modeling

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! After todays Exam

- Review problems you found challenging
- Prepare questions for next session