

2024-25 Competitive Events Guidelines

Financial Math



Financial Math provides members with the opportunity to gain knowledge around calculations in the business world. This competitive event consists of an objective test. This event aims to inspire members to learn about math in the business world.

Event Overview

Division: High School

Event Type: Individual

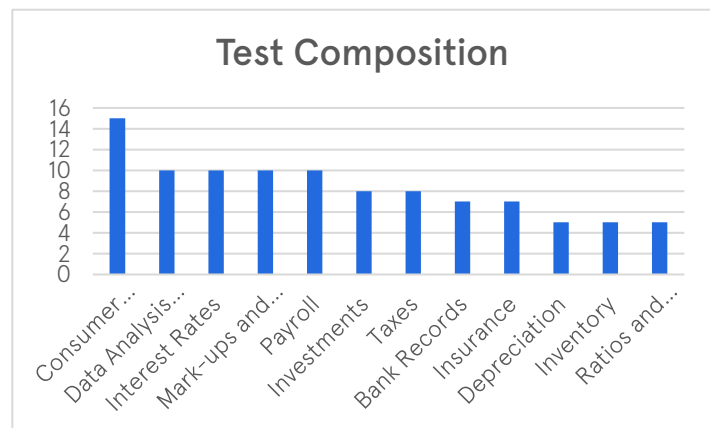
Event Category: Objective Test, 100-multiple choice questions (breakdown of question by competencies below)

Objective Test Time: 50 minutes

NACE Connections: Career & Self-Development

Objective Test Competencies

- Consumer credit
- Mark-up and discounts
- Data analysis and reporting
- Payroll
- Interest rates
- Investments
- Taxes
- Bank records
- Insurance
- Ratios and proportions
- Depreciation
- Inventory



District/Region/Section

Testing will take place prior to the District Leadership Conference. Check the Call to Conference for your District for specific instructions and deadlines.

State

Any events with a test will have an online testing component on-site at the State Leadership Conference. See below for list of required competition items; Colorado FBLA requires the same items set by National FBLA at our State Leadership Conference.

National

Required Competition Items

Items Competitor Must Provide	Items FBLA Provides
<ul style="list-style-type: none"> • Sharpened pencil • Fully powered device for online testing • Conference-provided nametag • Photo identification • Attire that meets the FBLA Dress Code 	<ul style="list-style-type: none"> • One piece of scratch paper per competitor • Internet access • Test login information (link & password)

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Important FBLA Documents

- Competitors should be familiar with the Competitive Events [Policy & Procedures Manual](#), [Honor Code](#), [Code of Conduct](#), and [Dress Code](#).

Eligibility

- FBLA membership dues are paid by 11:59 pm Eastern Time on March 1 of the current program year.
- Members may compete in an event at the National Leadership Conference (NLC) more than once if they have not previously placed in the top 10 of that event at the NLC. If a member places in the top 10 of an event at the NLC, they are no longer eligible to compete in that event.
- Members must be registered for the NLC and pay the national conference registration fee to participate in competitive events.
- Members must stay in an official FBLA hotel block to compete.
- Each state may submit four entries per event.
- Each member can only compete in one individual/team event and one chapter event (American Enterprise Project, Community Service Project, Local Chapter Annual Business Report, Partnership with Business Project).
- Picture identification (physical or digital: driver's license, passport, state-issued identification, or school-issued identification) matching the conference nametag is required when checking in for competitive events.
- If competitors are late for their assigned objective test time, they will be allowed to compete with a five-point penalty until such time that results are finalized, or the accommodation would impact the fairness and integrity of the event.
- Some competitive events start in the morning before the Opening Session of NLC. The schedules for competitive events are displayed in the local time of the NLC location. Competitive event schedules cannot be changed.

Recognition

- The number of competitors will determine the number of winners. The maximum number of winners for each competitive event is 10.

Event Administration

- This event is an objective test administered online at the NLC.
- No reference or study materials may be brought to the testing site.
- No calculators may be brought into the testing site; online calculators will be provided through the testing software.
- Competitors may flag questions within the online testing platform for the Competitive Events Committee to review before finalizing results at the NLC.

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Tie Breaker

- Ties are broken by comparing the correct number of answers to 10 pre-determined questions on the test. If a tie remains, answers to 20 pre-determined questions on the test will be reviewed to determine the winner. If a tie remains, the competitor who completed the test in a shorter amount of time will place higher.

Americans with Disabilities Act (ADA)

- FBLA meets the criteria specified in the Americans with Disabilities Act for all competitors with accommodations submitted through the conference registration system by the registration deadline.

Penalty Points

- Competitors may be disqualified if they violate the Code of Conduct or the Honor Code.
- Five points are deducted if competitors do not follow the Dress Code or are late to the testing site.

Electronic Devices

- Unless a pre-approved accommodation is in place, all cell phones, smart watches, and headphones must be turned off and put away before competition begins. Any visibility of these devices will be considered a violation of the Honor Code.

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Study Guide: Competencies and Tasks

- A. Consumer Credit
 - 1. Identify the costs, benefits, and sources of various types of credit.
 - 2. Calculate sales tax and computer total price with sales tax.
 - 3. Compute total purchase price with interest/finance charges added
 - 4. Compute the costs involved in owning and buying an item such as an automobile, appliances, home, or furniture.
 - 5. Compute finance charges for single payment loans.
 - 6. Calculate installment loan costs such as amount financed, installment price, finance charge, and installment payment.
 - 7. Find the estimated annual percentage rate (APR) using a table.
 - 8. Compare costs of leasing and buying.
 - 9. Find the finance charge and new balance using the average daily balance method.
 - 10. Read amortization tables to determine payment, interest and balance.
 - 11. Compute Annual and monthly Percentage Rate for credit cards or loan.
 - 12. Find the monthly mortgage payment.
 - 13. Find the total interest on a mortgage and the PITI.
 - 14. Prepare a partial amortization schedule of a mortgage.
 - 15. Compare the total interest paid on a 15-year and 30-year fixed rate mortgage.
 - 16. Define and compare the interest only, fixed rate, and adjustable-rate loans.
- B. Data Analysis and Reporting
 - 1. Using a data set, determine mean, median, and mode.
 - 2. Distinguish between a simple average and a weighted average and calculate each.
 - 3. Identify and construct various types of graphs and charts.
 - 4. Compile and arrange facts in organized manner for a table, chart, or figure.
 - 5. Explain or prepare written summary of findings expressed in tables, charts, graphs and figures.
 - 6. Make predictions and decisions based on data and communicate their reasoning.
 - 7. Explain the usage of statistics, probability, and systems of measurement in business.
- C. Interest Rates
 - 1. Figure rates, interest, and proceeds of bank discounts.
 - 2. Calculate simple interest using the simple interest formula.
 - 3. Calculate any single variable – principal, interest rate, amount of interest, or time – given the other three.
 - 4. Explain the process of discounting a promissory note and calculate the proceeds of a discounted promissory note.
 - 5. Define maturity value and find the maturity value of a loan.
 - 6. Convert months to a fractional or decimal part of a year.
 - 7. Find the future value and compound interest by compounding manually.
 - 8. Find the interest compounded daily using a table.

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D. Mark-ups and Discounts

1. Identify the various types of discounts.
2. Calculate chain, trade, and cash discounts and net selling price of each kind of discount.
3. Determine price of product after coupons and/or rebates.
4. Define and calculate markup and markdown.
5. Determine the rate of the markup or markdown.
6. Find the cost, markup or selling price when any two of the three are known.
7. Find the amount of markdown, the reduced price and the percent of markdown of an item.
8. Calculate markup based on cost.
9. Calculate markup based on selling price.
10. Convert markups from cost to selling price or from selling price to costs.

E. Payroll

1. Calculate pay based on piecework, salary, commissions, and graduated commissions.
2. Calculate gross pay based on an hourly wage with an overtime policy.
3. Calculate an employee's net earnings per paycheck.
4. Prepare an individual payroll or earnings record.
5. Find federal tax withholding per paycheck using IRS tax tables and IRS percentage method.
6. Calculate Social Security Tax and Medicare tax per paycheck.
7. Find an employer's total deposit for withholding tax, social security tax, and Medicare tax per pay period and quarterly.
8. Calculate federal and state unemployment taxes.
9. Compute business expenses related to employees: benefits, disability insurance, travel, and employee training.

F. Investments

1. Define investment terms such as risk, yields, P/E ratio, and rate of return.
2. Explain the effect compounding has in an investment and lending environment.
3. Compare investment decisions and make mathematical comparisons of investment alternatives.
4. Calculate the net present value of an investment such as certificate of deposit, savings account, stocks, and mutual funds.
5. Determine stock yield, earnings per share, and price-earnings ratio.
6. Compute the anticipated rate of return on specific investments and savings accounts using various factors such as simple or compound interest, dividends, fees, etc.

G. Taxes

1. Define tax terms such as standard deduction, itemized deductions, exemptions, and various types of taxes such as income tax, sales tax, and property tax.
2. Define and calculate property taxes based on local percentages/guidelines.
3. Calculate sales tax on purchase.
4. Complete a 1040 EZ Federal Income Tax Form with a W2 form.

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5. Prepare a 1040 A using W2 and 1099 Interest form.
 6. Complete basic tax forms such as W2 and W4.
- H. Bank Records
1. Compare different types of banking options such as credit unions and other banks.
 2. Identify the types of banking services and their costs for meeting various needs.
 3. Write a check, prepare deposits, and prepare withdrawal slips.
 4. Maintain a check register including proper procedures for ATM and automatic payment withdrawals.
 5. Reconcile a bank statement.
 6. Utilize online banking and bill payment options securely.
- I. Insurance
1. Identify and compare types of insurance.
 2. Read insurance premium charts and determine the cost of a particular policy.
 3. Analyze insurance proposals for auto and determine the cost of compulsory insurance and costs of optional coverage.
 4. Analyze health insurance premiums and calculate based on selected options.
 5. Compute the costs and benefits of specific insurance plans.
 6. Analyze deductibles and their effect on policy.
- J. Depreciation
1. Distinguish between straight-line method, declining balance method, sum of the year's digits method, and MACRS method.
 2. Determine straight-line depreciation for a year.
 3. Determine the depreciation expense on plant assets by the sum of the year's digits and declining balance.
 4. Determine modified accelerated cost recovery system depreciation.
 5. Use the straight-line depreciation method to find the value of an asset.
- K. Inventory
1. Determine the cost and value of inventory.
 2. Determine rate of inventory turnover.
 3. Determine the value of ending inventory using Average Cost (weighted average), FIFO, and LIFO.
- L. Ratios and Proportions
1. Define the terms ratio and proportion.
 2. Use ratios to evaluate profitability, efficiency, and leverage.
 3. Create ratios to express the quantitative relationship between two amounts.
 4. Use ratios, proportions, and percents to solve problems involving financial calculations.
 5. Analyze and explain methods for solving problems involving proportions such as scaling and finding equivalent ratios.