Study Guide: Analyst I Multiple-Choice Examination

Study Guide and Sample Test Questions for the Analyst I Written Examination

Published January 2026

CALHR
CALIFORNIA DEPARTMENT OF HUMAN RESOURCES

Welcome

Thank you for your interest in the Analyst I classification. This guide is designed to familiarize and assist you with preparing for the Analyst I examination. The test contains 60 multiple-choice items in three content sections: 1) Mathematical Computations, 2) Reading Comprehension/Data Analysis and Interpretation, and 3) Written Communication. The sample questions provided in this guide are intended to give you an idea of the kinds of questions you will encounter in the written test. However, it is important to note that actual test questions may vary in format and content.

How Should I Prepare for the Test?

To prepare for the Analyst I online examination, you should study contents assessed in each section of the test. You will be allowed to use a calculator for this examination.

This examination is available online for you to take at your convenience. Once you start the examination you will not be able to pause and come back to it. It is recommended that you ensure you have sufficient time to take the examination and a solid internet connection before logging on to take the test. Additionally, you should ensure you have a place to take the examination where you will not be interrupted or distracted and use Microsoft Edge, Firefox, or Chrome browsers for best outcome. Please note that each examination page will time out after 20 minutes. Unless you select continue and move to the next page, your responses will not be saved.

Test-Taking Tips

The Analyst I examination has a 2-hour-and-30-minute time limit, so it is important that you work quickly, but not so fast as to become careless. Always read all the possible choices before selecting your answer. If you do not know the answer to a problem, it is usually best to skip it and move on to the others. Your score will be based on the number of correct responses. If you are unsure of the answer to a problem, eliminate the answers you believe are wrong, and mark the choice that is your best response. Above all, budget your time, pace yourself, and avoid getting bogged down on any single question.

Test Content

Mathematical Computations – This section of the test measures your skills in the areas of algebra, geometry, and statistical problem solving.

Reading Comprehension/Data Analysis and Interpretation – This section of the test is designed to assess your skill in reading, interpreting, and applying written information. You will be asked to interpret and apply data and information contained in a variety of written materials, including written passages, tables, charts, and graphs.

Written Communication – This section of the test measures your grammar skills. You will be asked to read four sentences and identify which sentence has an error in it.

Answer Sheet

Answers to the following sample questions begin on page 10.

Sample Mathematical Computations Questions

Quantitative analysis includes questions in the areas of algebra, geometry, and statistical problem solving in a variety of problem formats and situations. You will be allowed to use a calculator for this test. The following are samples of the types of problems you may find in the Analyst I examination. However, actual problems will vary in format and content.

Tips

Tips to remember in solving mathematical problems:

- **Read the problem entirely** to get a feel for the whole problem.
- **List information and variables you identify.** Attach a unit of measurement to the variables (gallons, miles, inches, etc.).
- **Define what answer you need,** as well as the unit of measurement.
- **Work in an organized manner** to help you think clearly. Draw and label all graphs and pictures clearly. Note or explain each step of your process; this will help you track variables and remember their meanings.
- **Look for the "key" words** in the question that indicate a certain mathematical operation.

Algebra

Algebra is a branch of mathematics concerning the study of structure, relation, and quantity.

Instructions: Read the information provided and perform the calculations necessary to determine the correct answer.

1. Quick Call charges 18¢ per minute for long-distance calls. Econo Phone totals your phone usage each month and rounds the number of minutes up to the nearest 15 minutes. It then charges $7.90 per hour of phone usage, dividing this charge into 15-minute segments if you used less than a full hour. If your office makes 5 hours 3 minutes worth of calls this month using the company with lower price, how much will these calls cost?

a. $39.50
b. $41.48
c. $41.87
d. $54.54

Geometry

Geometry is a part of mathematics with questions of size, shape, relative position of figures, and with properties of space.

Instructions: Read the information provided and perform the calculations necessary to determine the correct answer.

2. The total length of fencing needed to enclose a rectangular area 46 feet by 34 feet is

a. 26 yards, 1 foot
b. 26 2/3 yard
c. 52 yards, 2 feet
d. 53 1/3 yards

Statistics

Statistics is a mathematical science pertaining to the collection, analysis, interpretation or explanation, and presentation of data.

3. The clerk who worked in Department A earned the following salaries: $15,105 the first year, $15,750 the second year and $16,440 the third year. Another clerk who worked in Department B for three years earned $15,825 a year for 2 years and $16,086 the third year. The **difference** between the average salaries received by both clerks over a three-year period is:

a. $147
b. $153
c. $261
d. $423

Sample Reading Comprehension/Data Analysis and Interpretation Questions

This section of the test is designed to assess your skill in reading, interpreting, and applying written information. You will be asked to interpret and apply data and information contained in a variety of written materials, including written passages, tables, charts and graphs. The following are samples of the types of problems you may find in the Analyst I examination. However, actual problems will vary in format and content.

Tables

Tables are used to represent relationships between data.

Instructions: Use the following table to answer questions 4 and 5:

Cost for Customer Service Training by Region

Region	# of Employees	Salary (cost per employee)	Training Materials (cost per employee)	Training Facility (flat cost)	Trainer's Fee (flat cost)	Total Cost
Northeast	37	$27.00	$9.75	$925.00	$550.00	
Southeast	53	$24.75	$9.75	$425.00	$550.00	
Central	55	$24.00	$9.75	$450.00	$550.00	
Northwest	40	$25.50	$9.75	$875.00	$550.00	
Southwest	42	$26.25	$9.75	$850.00	$550.00	

4. If five employees resigned from the Southwest Region, how much would the new total cost for the Customer Service Training be?

a. $2,631.00
b. $2,674.00
c. $2,713.00
d. $2,732.00

5. If the Training Facility cost increased by 25% for the Southeast and Northwest Regions, which of the following regions would cost the MOST to conduct the Customer Service Training?

a. Northeast
b. Southeast
c. Northwest
d. Southwest

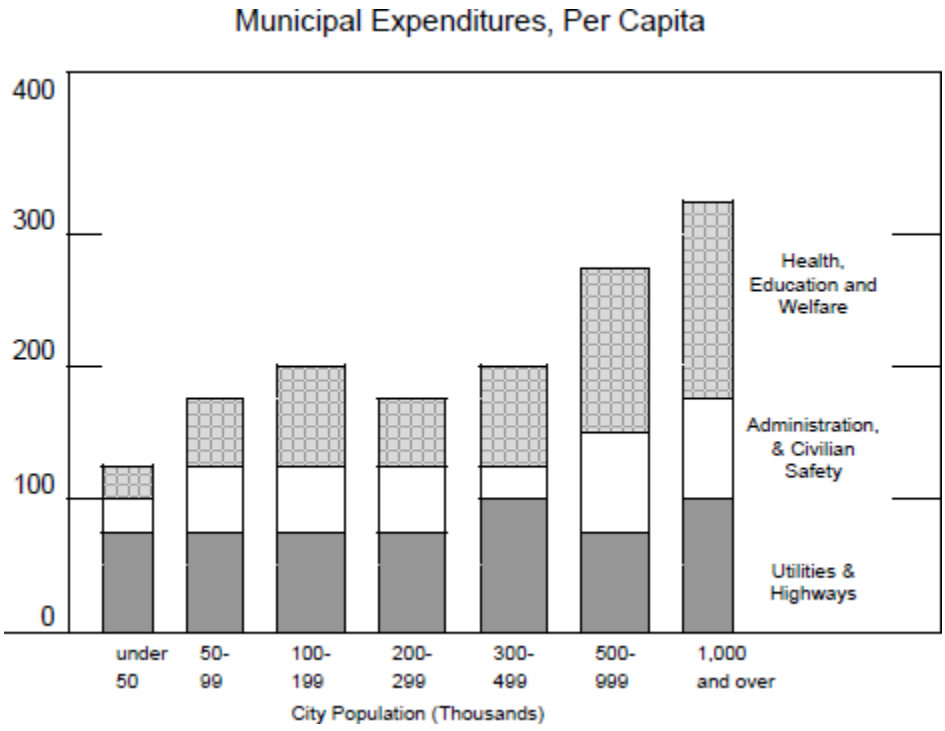
Graphs

Graphs illustrate comparisons and trends in statistical information. The most used graphs are bar graphs, line graphs, and circle graphs.

Bar Graphs

Bar Graphs are used to compare various quantities. Each bar may represent a single quantity or may be divided to represent several quantities.

Instructions: Use the following graph to answer question 6.



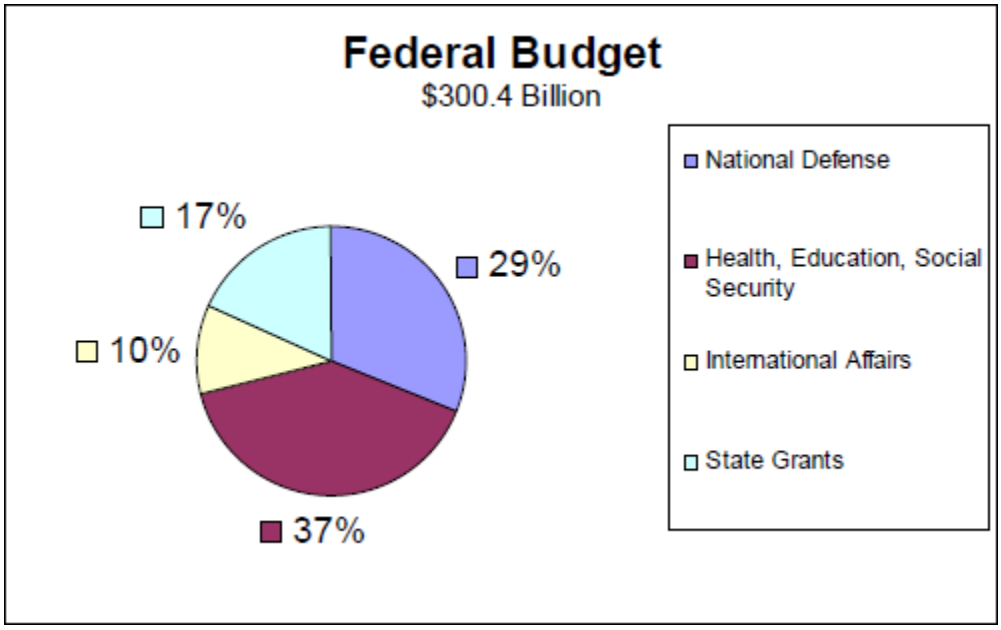
6. Using the chart above, what is the approximate municipal expenditure per capita in cities having populations of 200,000 to 299,000?

a. $125
b. $175
c. $200
d. $300

Circle Graphs

Circle Graphs are used to show the relationship of various parts of a quantity to each other and to the whole quantity. Percentages are often used in circle graphs with the 360 degree circle representing 100%. Each part of the circle graph is called a sector.

Instructions: Use the following graph to answer question 7.



7. The circle graph above shows the federal budget of $300.4 billion. Based on this information, what portion of the budget was **not** spent?

a. 5%
b. 7%
c. 10%
d. 12%

Written Passages

Written passages ask the reader to make conclusions based upon evidence and reasoning.

Instructions: Read the information provided in the following passage and answer the question that follows.

8. From time to time the state makes surplus property available for sale to the public. This property consists of state property; unclaimed or abandoned personal property and valuables, except those confiscated in conjunction with drug enforcement activities; and unclaimed stolen property. The surplus property is disposed of through sale bids, auctions, and donations.

According to the passage,

a. The state's personal property brings in the largest sales.
b. Items that are not claimed by their owner will be sold to the public.
c. The state holds regularly scheduled sales of property to the public.
d. Property obtained by drug enforcement activities is sold through the bid process.

Sample Written Communication Question

This section of the test is designed to assess your ability to effectively address a variety of situations related to the planning and organizing of projects and work assignments which you will encounter as an Analyst I.

Instructions: Select the sentence that contains at least one error in grammar, punctuation, spelling, sentence structure, or word usage. Do not consider comma or capitalization errors.

9. Which of the following sentences contains **at least one** error?

A. The government spending bill is going to be voted on this afternoon when all 100 representatives are available.

B. The next time the Budget Office has a team meeting your expected to bring the donuts.

C. Jim was the newest member of the team and had trouble completing sales calls on his own due to not knowing enough about the company's products.

D. The longtime associate at the law firm was a great source for historical data on past cases tried by the firm.

Answer Sheet

1. The correct answer is B. The operation is to determine the company with the lower price then calculate the total cost for the month.
   - Facts
     - *Econo Phone* = $7.90 per hour (Minutes are rounded to the nearest 15 minutes increment)
     - *Quick Call* = $0.18 per minute
   - Calculations
     - *Quick Call*
       - Step 1: Convert 5 hours and 3 minutes to total minutes.
         - The formula is: **number of hours (minutes in an hour) + extra minutes**
           - 5(60) + 3 = 303
       - Step 2: Determine the monthly cost.
         - The formula is: **total minutes (per minute charge)**
           - .18(303) = $54.54
     - *Econo Phone*
       - Step 1: Determine the charge for 3 minutes.
         - The formula is: **(hourly rate ÷ 4) + (number of hours x hourly rate) then round to the nearest penny.**
       - Step 2: (7.90 ÷ 4) + (7.90 x 5)
       - Step 3: 1.975 + 39.50 = 41.475
       - Step 4: Round 41.475 to the nearest penny ($41.48)
   - Choose the lowest price.

2. The correct answer is D. The operation is to determine the perimeter in yards.
   - The formula is: **2(length + width)/feet in a yard**
     - Step 1: 2(46 + 34)
     - Step 2: 2(80) = 160
     - Step 3: 160/3 = 53.333
     - Step 4: Express in fraction (53 1/3)

3. The correct answer is A. The operation is to determine the average salary for each clerk, and then calculate the difference between the salaries.
   - Step 1: Determine average salary of clerk in Department A.
     - The formula is **(sum of yearly salaries)/number of years**
       - ($15,105 + $15,750 + $16,440)/3 = $15,765
   - Step 2: Determine the average salary of clerk in Department B.
     - The formula is **(sum of yearly salaries)/number of years**
       - ($15,825 + $15,825 + $16,086)/3 = $15,912
   - Step 3: Determine the difference in average salaries.
       - $15,912 - $15,756 = $147

4. The correct answer is D.
   - Step 1: In the *Cost for Customer Service Training by Region* Table, locate the row for the Southwest Region.
   - Step 2: Subtract 5 employees who resigned from the original 42 employees in the Southwest Region.
     - (42 – 5 = 37)
   - Step 3: Multiply the new number of employees for the region by the Salary cost.
     - (37 x $26.25 = $971.25)
   - Step 4: Multiply the new number of employees for the region by the cost for Training Materials.
     - (37 x $9.75 = $360.75)
   - Step 5: Add the products from the previous two calculations.
     - ($971.25 + $360.75 = $1,332.00).
   - Step 6: Add this product to the costs for the Training Facility and Trainer's Fee.
     - ($1,332.00 + $850.00 + $550.00 = $2,732.00).

5. The correct answer is C.

   - Step 1: In the *Cost for Customer Service Training by Region* Table, locate the row for the Southeast and Northwest Regions.
   - Step 2: Multiply the facility costs for each region by the decimal equivalent of 25% to calculate the increased cost for the training facilities.
     - Southeast ($425.00 x .25 = $106.25)
     - Northwest ($875.00 x .25 = $218.75)
   - Step 3: Add the two products from the previous calculations to the regions original facility costs to calculate the new facility costs.
     - Southeast ($106.25 + $425.00 = $531.25)
     - Northwest ($218.75 + $875.00 = $1,093.75)
   - Step 4: With the new facility costs for the Southeast and Northwest Regions, calculate the cost for training by region by performing the following steps:
     1. Multiply the number of employees for the region by the Salary cost.
     2. Multiply the number of employees for the region by the cost for Training Materials.
     3. Add the products from the previous two calculations.
     4. Add this product to the costs for the Training Facility and Trainer's Fee.
   - Step 5: The following are the Total Costs by Region:

Region	Salary	Training Materials	Training Facility	Trainer's Fee	Total Cost
Northeast	$999.00	$360.75	$925.00	$550.00	$2,834.75
Southeast	$1,311.75	$516.75	$531.25	$550.00	$2,909.75
Central	$1,320.00	$536.25	$450.00	$550.00	$2,856.25
Northwest	$1,020.00	$390.00	$1093.75	$550.00	$3,053.75

Southwest	$1,102.5	$409.50	$850.00	$550.00	$2,912.00

- Step 6: From the provided choices, identify the region that will cost the most for Customer Service Training (Northwest).

6. The correct answer is B. The middle bar of the seven shown represents cities that have populations from 200,000 to 299,000. This bar reaches three fourth the way between 100 and 200. Therefore, the per capita is approximately $175.

7. The correct answer is B. There must be a total of 100% in a circle graph. The sum of the other sectors in this scenario is: 17% + 29% + 37% + 10% = 93%

Therefore, the difference between what was budgeted and what was spent is: 100% - 93% = 7%.

8. The correct answer is B. The passage provides two clues to indicate that unclaimed items are sold to the public. First, it states that surplus property is “available for sale to the public.” Second, it states that the surplus property includes unclaimed property.

9. The correct answer is B. The error is using your instead of you’re.