

DATA INTERPRETATION - LEVEL 2
STUDY GUIDE
& SAMPLE TEST QUESTIONS

VERSION 1



COUNTY OF
LOS ANGELES



Los Angeles
County
Human Resources
YOUR CAREER STARTS HERE.



WELCOME

Thank you for your interest in employment with the County of Los Angeles. This booklet is designed to familiarize and assist you with preparing for tests containing multiple-choice data interpretation items. The sample questions provided in this study guide are intended to give you an idea of the kinds of data interpretation items you may encounter in County tests. However, it is important to note that actual test questions will vary in format, content, and level of difficulty, depending on the job class being tested.

ABOUT THE COUNTY'S EXAMINATIONS

As an Equal Opportunity Employer, the County of Los Angeles takes steps to ensure that our exam content is job-related. We conduct studies to determine the knowledge, skills, abilities, and personal characteristics that are essential to satisfactorily perform the duties of the job. These studies assist us in developing the content of our examinations. Pre-employment testing provides us with an objective and cost-effective means to assess the qualifications of our applicants.

HOW SHOULD I PREPARE FOR THE WRITTEN TEST?

To prepare for the written test, you should study the concepts assessed in each section. It is likely that there will be several sections to the test in addition to data interpretation; thus, it is to your benefit to carefully read the job bulletin to determine the knowledge, skill, and ability areas the written test will cover. In addition, it is important that you read the entire written test notice for the location and time of the test as well as for parking instructions and other important information. Pay special attention to whether testing aids/materials such as hand-held calculators are allowed in the written test. If the test notice indicates that testing aids/materials are allowed, then you are strongly advised to bring these with you, as they will not be provided.

On test day, it is recommended that you arrive 15 minutes prior to the test's starting time, wear comfortable clothes, bring an accurate watch, and make sure you are well-rested. Also, remember to bring your test notice and a picture I.D. such as a driver license, or you may not be admitted into the test!

NOTE: Applicants who require special testing arrangements such as readers or interpreters must provide seven (7) days advance notice of their disability and requested accommodation. Check the front side of the job bulletin for telephone numbers to call to make disability accommodation requests. The County will attempt to meet reasonable accommodation requests whenever possible.

TEST-TAKING TIPS

Most County tests have a set 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 marking your answer. If you don't know the answer to a problem, it is usually best to skip it and move on to the others. Note that on most County tests, your score is based on the number of correct responses. If you are not sure 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.

Calculating Missing Values

INSTRUCTIONS: To answer questions 1-5, determine the correct values to complete the chart displayed below.
NOTE: actual test questions will vary in format, content, and level of difficulty.

ORGANIZATIONAL PERFORMANCE BY DEPARTMENT/DIVISION

Department Number	Number of Employees		Department Total	Number of Orders Processed (Division A)	Number of Hours Worked (Division A)	Number of Minutes Per Order (Division A)
	Division (A)	Division (B)				
1	6	200	206	30	18	36
2	101	30	131	(IV)	8	24
3	45	(III)	96	15	5	20
4	274	189	463	24	(I)	40
5	211	116	327	36	12	(II)
6	311	250	561	30	26	52
TOTALS	948	836	1784			

1. The value of **(I)** is
 - A. 12.
 - B. 15.
 - C. 16.
 - D. 18.

2. The value of **(II)** is
 - A. 14.
 - B. 20.
 - C. 21.
 - D. 27.

ORGANIZATIONAL PERFORMANCE BY DEPARTMENT/DIVISION

Department Number	Number of Employees		Department Total	Number of Orders Processed (Division A)	Number of Hours Worked (Division A)	Number of Minutes Per Order (Division A)
	Division (A)	Division (B)				
1	6	200	206	30	18	36
2	101	30	131	(IV)	8	24
3	45	(III)	96	15	5	20
4	274	189	463	24	(I)	40
5	211	116	327	36	12	(II)
6	311	250	561	30	26	52
TOTALS	948	836	1784			

3. The value of **(III)** is
 - A. 31.
 - B. 47.
 - C. 51.
 - D. 57.

4. The value of **(IV)** is
 - A. 16.
 - B. 18.
 - C. 20.
 - D. 22.

5. If the total number of employees in Division B increased by 50%, what would be the new total for the entire organization?
 - A. 1254
 - B. 2202
 - C. 2258
 - D. 2676

INSTRUCTIONS: To answer questions 6-10, refer to the *Cost for Customer Service Training Table by Region* displayed below. The table compares five different regions and the associated cost to conduct Customer Service Training. NOTE: actual test questions will vary in format, content, and level of difficulty.

COST FOR CUSTOMER SERVICE TRAINING BY REGION

		Salary	Training Materials	Training Facility	Trainer's Fee	
Region	# of Employees	(cost per employee)	(cost per employee)	(flat cost)	(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	

6. What is the total cost in training materials for all employees to attend the Customer Service Training?
 - A. \$2176.75
 - B. \$2213.25
 - C. \$2294.75
 - D. \$2342.50

7. Which of the following regions has a LOWER salary cost than the Northwest Region for employees to attend the training?
 - A. Northeast
 - B. Southeast
 - C. Central
 - D. Southwest

8. Of the following regions, which will cost the **MOST** to conduct the Customer Service Training?
 - A. Northeast
 - B. Southeast
 - C. Central
 - D. Northwest

COST FOR CUSTOMER SERVICE TRAINING BY REGION

		Salary	Training Materials	Training Facility	Trainer's Fee	
Region	# of Employees	(cost per employee)	(cost per employee)	(flat cost)	(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	

9. If five employees resigned from the Southwest Region, how much would its new total cost for the Customer Service Training be?
- A. \$2631.00
 - B. \$2674.00
 - C. \$2713.00
 - D. \$2732.00
10. 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

Interpreting Tabular Data

INSTRUCTIONS: To answer questions 11-15, refer to the *Supply Table* displayed below. The table shows supplies issued from a storeroom to various locations during a month period. Use only the information provided in the table when choosing your responses. NOTE: actual test questions will vary in format, content, and level of difficulty.

SUPPLY TABLE

Supplies	# of Locations Supplied	Total # of Units Issued	Amount Issued to Each Location (AA through FF)					
			AA	BB	CC	DD	EE	FF
Item 2B	4	13	2	0	5	0	4	2
Item 2T	4	6	1	0	1	3	1	0
Item 2X	5	21	2	5	2	0	8	4
Item 3V	6	19	7	1	5	3	1	2
Item 5M	3	8	0	1	3	4	0	0
Item 5P	5	16	3	1	0	6	1	5
Item 7F	5	32	0	8	4	6	5	9
Item 7Q	5	19	4	3	2	1	9	0
Item 8H	3	4	2	0	1	0	0	1
Item 8L	6	42	5	8	9	12	6	2

11. Which of the following locations received 3 units of Item 5M?
- A. AA
 - B. CC
 - C. DD
 - D. FF
12. The total number of units of 5P issued to **ALL** locations was
- A. 6.
 - B. 13.
 - C. 16.
 - D. 19.
13. How many times during the month were **MORE** than eight units of any one item sent to a location?
- A. 4
 - B. 5
 - C. 6
 - D. 7

SUPPLY TABLE

Supplies	# of Locations Supplied	Total # of Units Issued	Amount Issued to Each Location (AA through FF)					
			AA	BB	CC	DD	EE	FF
Item 2B	4	13	2	0	5	0	4	2
Item 2T	4	6	1	0	1	3	1	0
Item 2X	5	21	2	5	2	0	8	4
Item 3V	6	19	7	1	5	3	1	2
Item 5M	3	8	0	1	3	4	0	0
Item 5P	5	16	3	1	0	6	1	5
Item 7F	5	32	0	8	4	6	5	9
Item 7Q	5	19	4	3	2	1	9	0
Item 8H	3	4	2	0	1	0	0	1
Item 8L	6	42	5	8	9	12	6	2

14. Which of the following statements is **CORRECT**?
- A. One item was received by only one location.
 - B. Three items were received by three locations.
 - C. Four items were received by five locations.
 - D. Five items were received by four or more locations
15. Of the following, the location that received the **SAME** number of total units of supplies as EE was
- A. AA.
 - B. BB.
 - C. CC.
 - D. DD.

Answers and Explanations to Data Interpretation Sample Questions

1. The correct answer is C. To solve:
 - Multiply the number of minutes per order by the number of orders processed for Department 4/Division A ($40 \times 24 = 960$);
 - Divide 960 by the number of minutes in an hour ($960 \div 60$) to determine the number of hours worked (equals 16).

2. The correct answer is B. To solve:
 - Multiply the number of hours worked by the number of minutes in an hour ($12 \times 60 = 720$) for Department 5/Division A;
 - Divide 720 by the number of orders processed ($720 \div 36$) to determine the number of minutes per order (equals 20).

3. The correct answer is C. To solve:
 - Subtract the number of employees in Department 3/Division A from the total in Department 3 ($96 - 45$) to equal 51.

4. The correct answer is C. To solve:
 - Multiply the number of hours worked in Department 2/Division A by the number of minutes in an hour ($8 \times 60 = 480$);
 - Divide 480 by the number of minutes per order ($480 \div 24$) to determine the Number of Orders Processed (equals 20).

5. The correct answer is B. To solve:
 - Multiply 836 by 1.50 ($836 \times 1.50 = 1254$) to determine the 50% increase in the total number of employees in Division B;
 - Add 1254 to the total number of employees in Division A to find the total for the entire organization ($1254 + 948$) to equal 2202.

6. The correct answer is B. To solve:
- In the *Cost for Customer Service Training by Region* Table, locate the columns titled “# of Employees” and “Training Materials.”
 - Multiply the number of employees for each region by the corresponding cost for Training Materials (e.g., Northeast Region: $37 \times \$9.75 = \360.75).
 - The cost by region is as follows:

Region	Training Materials
Northeast	\$360.75
Southeast	\$516.75
Central	\$536.25
Northwest	\$390.00
Southwest	\$409.50

- Add the costs from each region to obtain the OVERALL TOTAL COST for Training Materials (\$2213.25).

7. The correct answer is A. To solve:
- In the *Cost for Customer Service Training by Region* Table, locate the columns titled “# of Employees” and “Salary.”
 - Multiply the number of employees for each region by the corresponding cost for Salary (e.g., Southwest Region: $42 \times \$26.25 = \$1,102.50$).
 - The cost by region is as follows:

Region	Salary
Northeast	\$999.00
Southeast	\$1,311.75
Central	\$1,320.00
Northwest	\$1,020.00
Southwest	\$1,102.50

- Identify the region that has a lower salary cost than the Northwest Region’s cost of \$1,020.00 (Northeast at a cost of \$999.00).

8. The correct answer is C. To solve:
- In the *Cost for Customer Service Training by Region* Table, calculate the cost for training by region by performing the following steps:
 - multiply the number of employees for the region by the Salary cost
 - multiply the number of employees for the region by the cost for Training Materials
 - add the two products from the first two calculations
 - add this product to the costs for the Training Facility and Trainer's Fee
 - 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	\$425.00	\$550.00	\$2,803.50
Central	\$1,320.00	\$536.25	\$450.00	\$550.00	\$2,856.25
Northwest	\$1,020.00	\$390.00	\$875.00	\$550.00	\$2,835.00
Southwest	\$1,102.50	\$409.50	\$850.00	\$550.00	\$2,912.00

- From the provided choices, identify the region that will cost the most for training (Central).

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

10. The correct answer is C. To solve:
- In the *Cost for Customer Service Training by Region* Table, locate the rows for the Southeast and Northwest Regions.
 - Multiply the facility costs for each region by the decimal equivalent of 25% to calculate the increased cost for the training facilities.
 - Southeast ($\$425.00 \times .25 = \106.25)
 - Northwest ($\$875.00 \times .25 = \218.75)
 - 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 ($\$218.75 + \$875.00 = \$1,093.75$)
 - With the new facility costs for the Southeast and Northwest Regions, calculate the cost for training by region by performing the following steps:
 - multiply the number of employees for the region by the Salary cost
 - multiply the number of employees for the region by the cost for Training Materials
 - add the products from the previous two calculations
 - add this product to the costs for the Training Facility and Trainer’s Fee
 - 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	\$1,102.50	\$409.50	\$850.00	\$550.00	\$2,912.00

- From the provided choices, identify the region that will cost the most for Customer Service Training (Northwest).
11. The correct answer is B. To solve:
- In the *Supply Table*, locate Item 5M.
 - Check the number of units ordered by each location.
 - Identify the location that ordered 3 units of 5M (Location CC).
12. The correct answer is C. To solve:
- In the *Supply Table*, locate Item 5P.
 - Identify the total number of units of 5P under the column titled “Total # of Units Issued” (16).
13. The correct answer is A. To solve:
- In the *Supply Table*, under each location check how many times an item was sent 8 or more times.
 - Eight or more units of an item was sent to location CC (9 units of 8L), location DD (12 units of 8L), location EE (9 units of 7Q), and location FF (9 units of 7F).

14. The correct answer is C. To solve:
- In the *Supply Table*, locate the column titled “# of Locations Supplied.”
 - Identify the items that have been supplied to 5 locations.
 - The items that were delivered to 5 locations are 2X, 5P, 7F, and 7Q.
15. The correct answer is D. To solve:
- In the *Supply Table*, total the number of units delivered to each location by adding the numbers under each location column.
 - The total received by each location is AA (26), BB (27), CC (32), DD (35), and EE (35).
 - Location DD has received the same number of units as location EE.