DATA INTERPRETATION - LEVEL 2

STUDY GUIDE

& SAMPLE TEST QUESTIONS

VERSION 4

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.

INSTRUCTIONS: To answer questions 1-5, read the information and answer the questions that follow by choosing the best response from the choices provided. NOTE: actual test questions will vary in format, content, and level of difficulty.

GREEN COUNTY VACATION AND SICK LEAVE BENEFITS PROGRAM FOR NON-EXEMPT EMPLOYEES: POLICIES AND PROCEDURES

I. Vacation and Sick Leave accrual shall be made available only to permanent, full-time employees of Green County.
II. Vacation and Sick Leave accrual shall commence on the employee's start date of employment; however, the employee shall receive a full month's Vacation and Sick Leave credit regardless of his/her start date.
III. Vacation and Sick Leave time shall accrue to the employee on the fifteenth day of the month following the month in which it was earned.
IV. No employee shall be granted Vacation or Sick Leave time in advance of such leave being accrued.
V. Vacation Leave shall be granted in eight (8) hour increments only, to equal one (1) working day.
VI. Vacation Leave accrual shall be based on length of continuous service, and shall accrue to employees as follows:

Length of Service	Vacation Leave Accrual Rate
Less than 1 year	6 hours per month
1 year+ to 5 years	8 hours per month
5 years+ to 10 years	12 hours per month
10 years+	16 hours per month

VII. Employees may carry over hours of Vacation Leave from one anniversary year to the next, to a maximum of 800 hours at any time.
VIII. Sick Leave shall accrue at the rate of six and one-half (6½) hours per one (1) month of service, to a maximum of 390 hours at any time.
IX. An employee may substitute Vacation Leave for Sick Leave in the event of major illness to the employee or a close relative and if the employee has exhausted all of his/her Sick Leave.
X. Under no circumstance may an employee substitute Sick Leave for Vacation Leave.

1. Gina McNamara has been a full-time, permanent employee of Green County since July 12, 2000. The total number of hours of Vacation and Sick Leave she may accrue as of her one-year anniversary date is most nearly

A. 137 ½.
B. 138.
C. 149 ½.
D. 150.

2. Miguel Santiago has been a permanent, full-time employee of Green County since April 10, 1996. What is the maximum number of days of vacation he may take as of May 21, 2000, if he has already used ten days?

   A. 35
   B. 36
   C. 37
   D. 38

3. Jennifer Scholl has worked for Green County as a permanent, full-time employee as of October 31, 1994, and since that time has used only five vacation days per year in August. Assuming she has used no Sick Leave, what is the maximum number of hours she may take off as of July 23, 1999 in the event of a major illness?

   A. 629 ½
   B. 642 ½
   C. 650 ½
   D. 666 ½

4. Flora Murray has worked at the Green County Department of Personnel Services since July 15, 1996. From May 17, 2001 to May 19, 2001 she used 24 hours of Sick Leave. Assuming she takes no other time, on what date will Flora accrue the maximum number of hours of Sick Leave?

   A. September 15, 2001
   B. October 15, 2001
   C. November 15, 2001
   D. December 15, 2001

5. Terry Bodwin has worked as a permanent, full-time clerk at the Green County Sanitation Department for the past 12 years. If her June 15, 2000 paycheck shows she has accrued 18 hours of vacation time, the soonest that Terry will be able to take ten days of vacation is

   A. September 2000.
   B. October 2000.
   C. November 2000.
   D. December 2000.

Interpreting Written Information

INSTRUCTIONS: To answer questions 6-10, refer to the information presented in **ATTACHMENT A** on page 6. In some cases there may be more than one solution to these problems; therefore, you are to select the best answer from the choices provided. NOTE: actual test questions will vary in format, content, and level of difficulty.

6. What is the fewest number of employees who can be scheduled this week?

   A. 3
   B. 4
   C. 5
   D. 6

7. Who should be on call Monday for maintenance emergencies?

   A. Amal
   B. Bryan
   C. Sal
   D. Sherry

8. If Amal is unable to work on Tuesday, who is most likely to be assigned a single task for 8 hours?

   A. Bryan
   B. Jose
   C. Sal
   D. Sherry

9. Who must perform the roofing on Friday?

   A. Amal
   B. Bryan
   C. Sal
   D. Sherry

10. Of the following, which is true if Bryan is scheduled for 8 hours of plumbing on Tuesday?

    A. Amal will be scheduled for 4 hours of carpentry.
    B. Amal will be scheduled for 4 hours of plumbing.
    C. Sal will be scheduled for 2 hours of roofing.
    D. Sherry will be scheduled for 6 hours of roofing.

ATTACHMENT A

Green County is to renovate a facility for use by the Department of Information Management. The first table shows the trades employees to be assigned to the project and their respective area(s) of expertise. The second table shows the number of hours that are to be allotted to each task for each day of the workweek.

EMPLOYEE	AREA(S) OF EXPERTISE
Amal	Carpentry/Electrical/Plumbing
Bryan	Plumbing
Jose	Carpentry/Plumbing
Sherry	Electrical/Roofing
Sal	Painting/Roofing

WORK ORDER

	Mon.	Tues.	Wed.	Thurs.	Fri.
Carpentry	6	4	4	8	8
Electrical	2	4	12	9	6
Painting	4	6	8	6	8
Plumbing	16	12	4	5	2
Roofing	4	6	4	4	8

Trades employees are to be scheduled according to the following criteria:

1. Employees may not be scheduled to work in excess of 40 hours per week.
2. Employees may not work in excess of eight (8) hours per day.
3. Employees must be scheduled in eight (8) hour increments.
4. Employees may perform multiple tasks in the same day, and may divide tasks with another employee in increments of no less than one hour, if required.
5. One employee must be designated as "on-call" for maintenance emergencies during each 8-hour shift, and must work the full on-call shift for the day.
6. If an employee is unable to work his/her scheduled shift, the on-call employee may cover both the on-call maintenance function and his/her own job tasks; however, this person may not be scheduled in advance to cover both jobs.
7. All of the trades employees are qualified to be on-call except Jose.

Interpreting Graphs

INSTRUCTIONS: For questions 11-15, refer to the graphs displayed in **Attachment B** on page 8. Refer to "About Graphs" on page 9 for information on graphs and their uses. NOTE: actual test questions will vary in format, content, and level of difficulty.

11. How many employees in the Municipal Works Department participated in Community Service Week in 1999?

    A. 75
    B. 100
    C. 200
    D. 275

12. How many more employees were in the Administration Department than the Human Resources Department in 2002?

    A. 8
    B. 84
    C. 160
    D. 360

13. If the trend that began in 2000 continues, how many employees will there be in Doheny County in 2005?

    A. 2300
    B. 2450
    C. 2500
    D. 2600

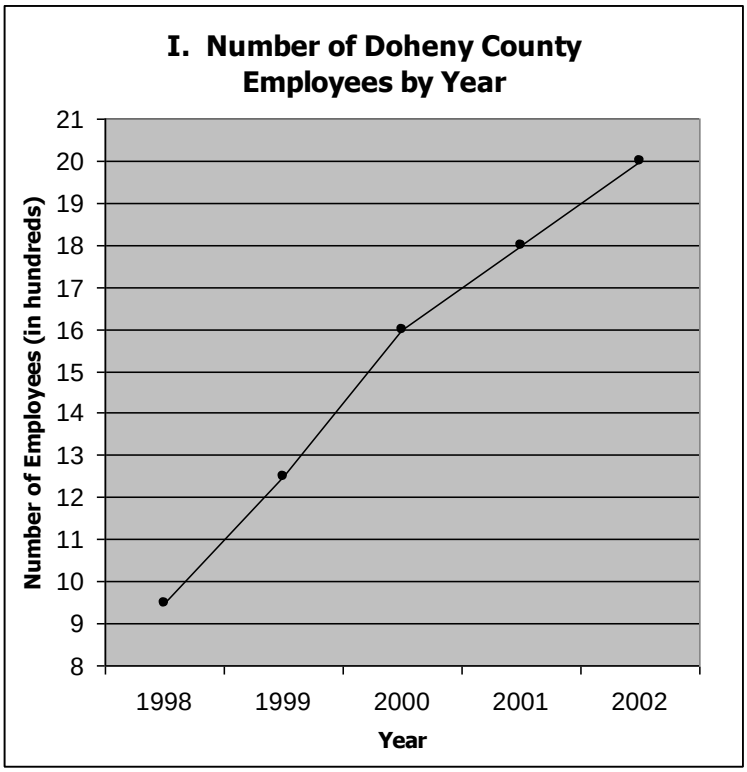
14. Approximately what percentage of employees in Doheny County participated in Community Service Week in the year 2000?

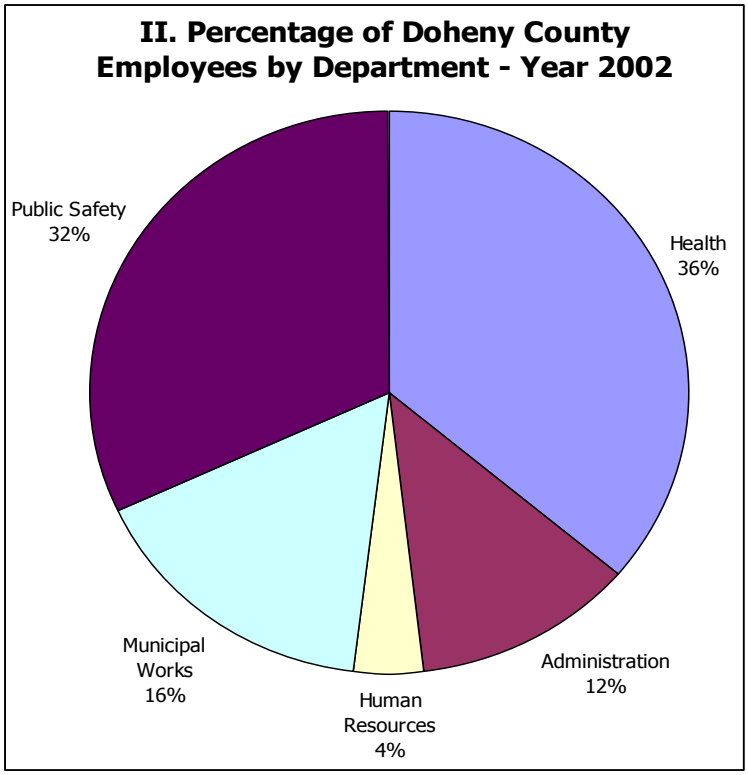
    A. 20%
    B. 50%
    C. 80%
    D. 90%

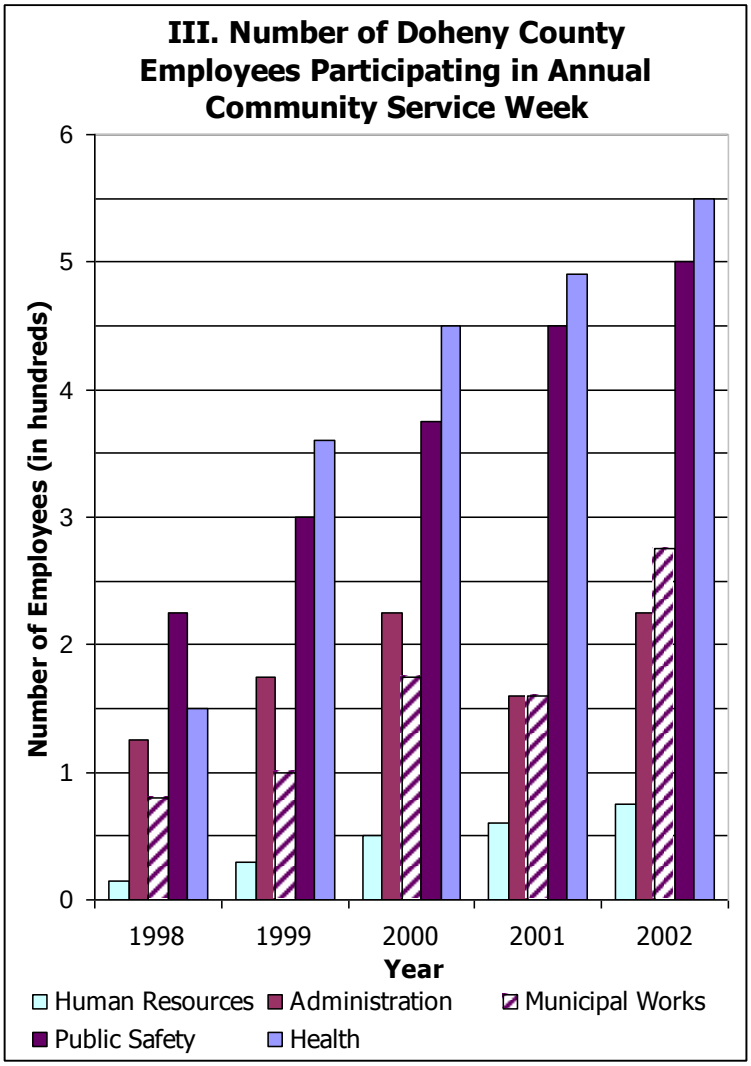
15. Since 1998, which two departments did **NOT** show a consistent increase in the numbers of employees participating in Community Service Week?

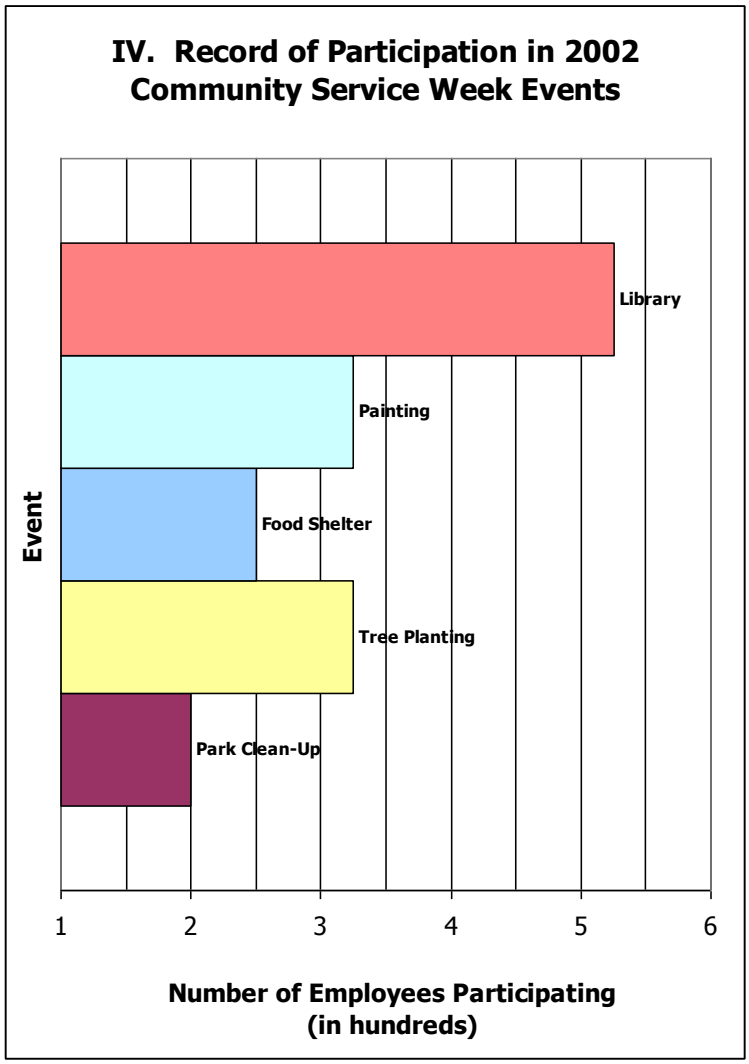
    A. Public Safety and Health
    B. Health and Administration
    C. Administration and Municipal Works
    D. Municipal Works and Human Resources

Attachment B









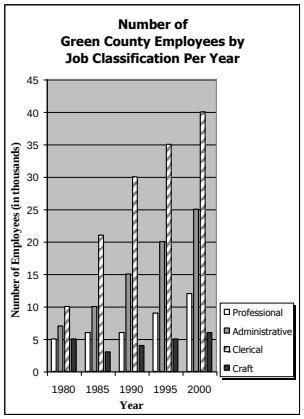
ABOUT GRAPHS

Graphs and charts are used to summarize information in a visual format. Although there are many kinds of graphs, three styles used commonly in business are **bar graphs**, **line graphs**, and **pie charts**, pictured and described below.

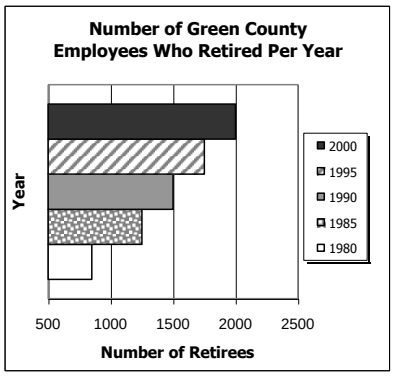
BAR GRAPHS

Bar graphs are charts whose lengths are proportional to specific quantities. They are used primarily for purposes of comparing frequencies of different characteristics of data, as illustrated in the examples to the right. Note that example "A" compares the frequency of employment in different job classifications for the years 1980-2000. Example "B" compares the frequency of retirees for the years 1980-2000.

A.



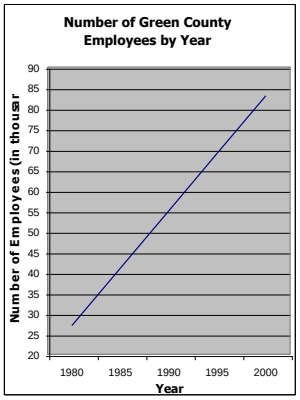
B.



LINE GRAPHS

Line graphs are similar to bar graphs, except that the frequency of a given variable is represented by points that lie along a line. As illustrated in example "C," a point on the line represents the number of Green County employees for each of the years 1980-2000. A look at the overall data indicates an upward trend.

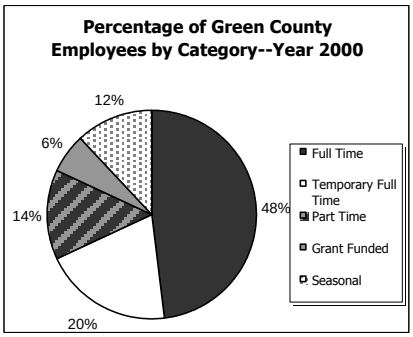
C.



PIE CHARTS

Pie charts are circular graphs whose "slices" are proportional in angle and area to the relative size of the quantities represented.
As illustrated in example "D," it is fairly easy to tell that the largest percentage of Green County employees in the year 2000 was full-time, while the next largest percentage was temporary full-time.

D.



Answers and Explanations to Data Interpretation Sample Questions

1. The correct answer is A. To solve:
   - Count the number of months for a year from July 12, 2000 for which Gina will accrue Vacation and Sick Leave (equals 11 months, per policies II and III);
   - Multiply the number of months by the appropriate Vacation Leave accrual rate (11 × 6) to equal 66 hours;
   - Multiply the number of months by the Sick Leave accrual rate (11 × 6½) to equal 71½;
   - Add together the Vacation and Sick Leave hours (66 + 71½) to equal 137½.

2. The correct answer is B. To solve:
   - Count the number of months from April 10, 1996 to May 21, 2000 for which Miguel has accrued or will accrue Vacation Leave (equals 49);
   - Multiply the number of months by their respective Vacation Leave accrual rates (12 × 6 and 37 × 8) to equal 72 and 296;
   - Add together 72 and 296, to equal 368 total hours accrued;
   - Subtract the number of hours already used (10 days equals 80 hours, per policy V) (368 − 80) to equal 288 hours available to take;
   - Divide 288 by 8, per policy V, which equals 36 days.

3. The correct answer is B. To solve:
   - Count the number of months from October 31, 1994 to July 23, 1999 for which Jennifer will accrue Vacation and Sick Leave (equals 57);
   - Multiply the number of months by their respective Vacation Leave accrual rates (12 × 6 and 45 × 8) to equal 72 and 360;
   - Add 72 and 360 to equal 432;
   - Multiply the number of Vacation Leave hours used for each August vacation by the number of vacations taken during the period (40 × 4) to equal 160;
   - Subtract the number of Vacation Leave hours used from the total number accrued (432 − 160) to equal 272;
   - Multiply 57 by the Sick Leave accrual rate (57 × 6½) to equal 370½ ;
   - Add 272 and 370½ to determine the number of hours available, to equal 642½.

4. The correct answer is C. To solve:
   - Count the number of months from July 15, 1996 to May 17, 2001 for which Flora has accrued Sick Leave (equals 58);
   - Multiply the number of months by the Sick Leave accrual rate (58 × 6½) to equal 377;
   - Subtract the hours used from the hours accrued (377 − 24) to equal 353;
   - Subtract the balance of hours from the maximum allowable (390 − 353) to equal 37;
   - Divide 37 by the number of hours accrued each month (37 ÷ 6½) to equal six accrual months (May 2001 to October 2001);
   - Count ahead one month to determine the October Sick Leave accrual date (November 15, 2001).

5. The correct answer is B. To solve:
   - Multiply the number of vacation days to take by the number of Vacation Leave hours allotted for each day (10×8) to equal 80;
   - Subtract the hours needed for the vacation from the hours accrued ($80 - 18$) to equal 62;
   - Divide the hours needed for the vacation by the number of hours accrued each month ($62 \div 16$) to equal approximately 4 months;
   - Count forward 4 months starting with July 2000 to reach October 2000.

6. The correct answer is C. To solve:
   - From the information provided in Attachment B, note there are 32 hours of work to be done per day, in addition to 8 hours for on-call maintenance emergencies ($32 + 8$), to equal 40 hours per day;
   - Since no employee may work more than 8 hours per day, divide 40 by 8 to determine the number of employees that must be scheduled (equals 5).

7. The correct answer is D. To solve:
   - Check the work order under the column headed "Monday";
   - Jose can be scheduled for 8 hours of plumbing;
   - Bryan can be scheduled for the 8 hours of plumbing that remain;
   - Amal can be scheduled for 2 hours of electrical work and 6 hours of carpentry;
   - Sal can be scheduled for 4 hours of roofing and 4 hours of painting;
   - Sherry can be designated as on-call.

8. The correct answer is A. To solve:
   - Check the work order under the column headed "Tuesday";
   - Bryan can be scheduled for 8 hours of plumbing;
   - Sal can be scheduled for 6 hours of painting and 2 hours of roofing;
   - Sherry can be scheduled for the remaining 4 hours of roofing and 4 hours of electrical work;
   - Jose can be scheduled for the remaining 4 hours of plumbing and 4 hours of carpentry;
   - With the absence of Amal, one worker (besides Jose) can be designated as on-call.

9. The correct answer is D. To solve:
   - Check the work order under the column headed "Friday";
   - Amal can be scheduled for 2 hours of plumbing and 6 hours of electrical work;
   - Jose can be scheduled for 8 hours of carpentry;
   - Sal is the only worker qualified to paint, so he must be scheduled for 8 hours of painting;
   - Sherry is the only worker besides Sal who is qualified to roof, so she must be scheduled for 8 hours of roofing;
   - Bryan can be designated as on-call.

10. The correct answer is C. To solve:
    - Check the work order under the column headed "Tuesday";
    - Bryan is scheduled for 8 hours of plumbing;
    - Jose can be scheduled for the remaining 4 hours of plumbing as well as 4 hours of carpentry;
    - Sherry can be scheduled for 4 hours of electrical work and 4 hours of roofing;
    - Sal must be scheduled for 6 hours of painting, but he must also perform 2 hours of roofing to total 8 hours;
    - Amal can be designated as on-call.

11. The correct answer is B. To solve:
    - Identify from the Graph III legend the column color/pattern that represents Municipal Works.
    - Locate the section of Graph III for the year 1999 and look at the column for Municipal Works.
    - The top of this column lines up horizontally with the number 1, indicating that 100 employees from Municipal Works participated in Community Service Week in 1999.

12. The correct answer is C. Graph I indicates that there are 2000 employees in Doheny County in the year 2002. Graph II indicates that the Administration and Human Resources Departments comprise 12% and 4%, respectively, of Doheny County employees in 2002. To solve:
    - Multiply the decimal equivalent of 12% by the total number of employees in Doheny County in 2002 (0.12 x 2000) to find that 240 employees are in Administration.
    - Multiply the decimal equivalent of 4% by the total number of employees in Doheny County in 2002 (0.04 x 2000) to find that 80 employees are in Human Resources.
    - Subtract 80 from 240 to determine that Administration has 160 more employees than Human Resources.

13. The correct answer is D. Graph I indicates that there are 1600 employees in Doheny County in the year 2000, 1800 employees in 2001, and 2000 employees in 2002. The trend, or pattern, is a 200-employee increase per year. To solve:
    - Subtract 2002 from 2005 to determine that the trend should be applied to 3 years.
    - Multiply the trend by the number of years (200 x 3) to determine that there will be an increase of 600 employees during this time period.
    - Add this amount to the number of employees in the year 2002 when the trend began (2000 + 600) to determine that there will be 2600 employees in Doheny County in 2005.

14. The correct answer is C. Graph III indicates that there were 50 employees from Human Resources, 225 from Administration, 175 from Municipal Works, 375 from Public Safety, and 450 from Health participating in Community Service Week in the year 2000. Graph I indicates that there were 1600 employees in Doheny County in 2000. To solve:
    - Add the number of employees participating in Community Service Week from each department (50 + 225 + 175 + 375 + 450) to determine that a total of 1275 employees participated in 2000.
    - Divide the number of employees participating by the total number of employees in Doheny County in 2000 (1275 / 1600) and multiply this number by 100 to determine that 79.6% or approximately 80% participated.

15. The correct answer is C. Graph III indicates that all departments except Administration and Municipal Works increased from one year to the next. Administration showed a decrease in the year 2001 and Municipal Works showed a decrease in the year 1999.