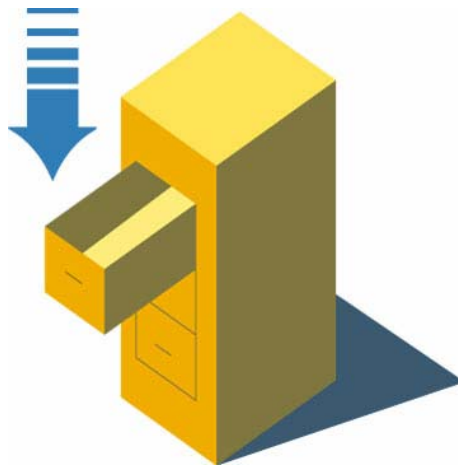




County of Los Angeles
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Clerical Study Guide & Sample Test Questions Version 1



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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 entry-level clerical items. The sample questions provided in this study guide are intended to give you an idea of the kinds of clerical 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.

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 do not 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.

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!

Ability to File

INSTRUCTIONS: For questions 1-15, find the answer to the alphabetical and numerical examples shown. Items are arranged for alphabetical filing by *last name*, then by *first name*, from A to Z. Items are arranged for numerical filing from *lowest* to *highest* value.

1. If the names Humberto Castillo, Pedro Castaneda, Norma Cortez, and Silvia Campos were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Silvia Campos, Pedro Castaneda, Humberto Castillo, and Norma Cortez. The underlined name is third; therefore, choice **C** is the correct answer.

2. If the names Sara Lewis, Steve Leung, Mary Lopez, and Tom Lee were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Tom Lee, Steve Leung, Sara Lewis, and Mary Lopez. The underlined name is first; therefore, choice **A** is the correct answer.

3. If the names Alan Mayfield, Barbara Mackey, Steve Mayer, and Marie Martinez were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Barbara Mackey, Marie Martinez, Steve Mayer, and Alan Mayfield. The underlined name is second; therefore, choice **B** is the correct answer.

4. If the names Lillian Chang, Lionel Chandler, Linda Chavez, and Lin Chase were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Lionel Chandler, Lillian Chang, Lin Chase, and Linda Chavez. The underlined name is second; therefore, choice **B** is the correct answer.

5. If the names Charlotte Ramsey, Mark Reagan, Elisa Regalado, and Eric Ramos were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Eric Ramos, Charlotte Ramsey, Mark Reagan, and Elisa Regalado. The underlined name is third; therefore, choice **C** is the correct answer.

6. If the names Debra Willis, John Williams, Anthony Wilson, and Robert Williamson were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be John Williams, Robert Williamson, Debra Willis, and Anthony Wilson. The underlined name is third; therefore, choice **C** is the correct answer.

7. If the names Sandra Davis, Kathy Donaldson, Larry Dees, and Teresa Diaz were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Sandra Davis, Larry Dees, Teresa Diaz, and Kathy Donaldson. The underlined name is fourth; therefore, choice **D** is the correct answer.

8. If the names Anthony Estrada, Mark Everett, Robert Emerson, and Debra Evans were arranged for alphabetical filing, the position of the underlined name would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be Robert Emerson, Anthony Estrada, Debra Evans, and Mark Everett. The underlined name is first; therefore, choice **A** is the correct answer.

9. If the numerical sequences 51.56847, 522.2849, 5.45879, and 0.51274 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 0.51274, 5.45879, 51.56847, and 522.2849. The underlined sequence is third; therefore, choice **C** is the correct answer.

10. If the numerical sequences 389452, 326.151, 3.89456, and 31.9659 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 3.89456, 31.9659, 326.151, and 389452. The underlined sequence is fourth; therefore, choice **D** is the correct answer.

11. If the numerical sequences 4.548, 4.5482, 4.5399, and 4.5521 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 4.5399, 4.548, 4.5482, and 4.5521. The underlined sequence is second; therefore, choice **B** is the correct answer.

12. If the numerical sequences 10.0126, 10.016, 10.01, and 10.0026 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 10.0026, 10.01, 10.0126, and 10.016. The underlined sequence is first; therefore, choice **A** is the correct answer.

13. If the numerical sequences 637.2081, 638.762, 637.2100, and 637.2019 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 637.2019, 637.2081, 637.2100, and 638.762. The underlined sequence is second; therefore, choice **B** is the correct answer.

14. If the numerical sequences 0.5661, 0.5992, 0.5562, and 0.5600 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 0.5562, 0.5600, 0.5661, and 0.5992. The underlined sequence is third; therefore, choice **C** is the correct answer.

15. If the numerical sequences 7258.58, 7258.09, 7258.12, and 7258.1 were arranged for numerical filing, the position of the underlined sequence would be
- A. first.
 - B. second.
 - C. third.
 - D. fourth.

ANSWER: The order would be 7258.09, 7258.1, 7258.12, and 7258.58. The underlined sequence is first; therefore, choice **A** is the correct answer.

Checking for Errors

INSTRUCTIONS: For questions 16-30, compare the COPY with its ORIGINAL and count the number of errors you find in the COPY. When the order of two numbers or letters is reversed, one error is counted.

16.	<u>ORIGINAL</u>		<u>COPY</u>	
	Destination	Departure Time	Destination	Departure Time
	Miami FL	6:00 A.M.	Miami FL	6:00 A.M.
	Seattle WA	7:30 A.M.	Seatle WA	7:30 A.M.
	Chicago IL	8:00 A.M.	Chicago IL	8:00 A.M.

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following error can be found:

- In the COPY, "Seatle" should be spelled "Seattle" as shown in the ORIGINAL.

One error can be found; therefore, choice **A** is the correct answer.

17. **ORIGINAL** **COPY**
 Mr. Roland Thomas Mr. Roeland Thomas
 4588 South Imperial Highway 4568 South Imperial Highway
 Los Angeles CA 90031 Los Angeles CA 90031

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the **COPY** to the **ORIGINAL**, the following two errors can be found:

- In the **COPY**, "Roeland" should be spelled "Roland" as shown in the **ORIGINAL**.
- In the **COPY**, "4568" should be "4588" as shown in the **ORIGINAL**.

Two errors can be found; therefore, choice **B** is the correct answer.

18. **ORIGINAL** **COPY**
- | <i>INVOICE NUMBER</i> | <i>ORDER DATE</i> | <i>INVOICE NUMBER</i> | <i>ORDER DATE</i> |
|-----------------------|-------------------|-----------------------|-------------------|
| 125400-1212 | 12/02/2000 | 125400-1212 | 12/02/2000 |
| 458465-2220 | 11/28/2000 | 458465-2220 | 11/28/2000 |
| 353575-5501 | 01/22/2002 | 353575-5551 | 01/22/2002 |
| 848488-7689 | 05/07/2002 | 848848-7689 | 05/07/2002 |

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the **COPY** to the **ORIGINAL**, the following two errors can be found:

- In the **COPY**, "353575-5551" should be "353575-5501" as shown in the **ORIGINAL**.
- In the **COPY**, "848848-7689" should be "848488-7689" as shown in the **ORIGINAL**.

Two errors can be found; therefore, choice **B** is the correct answer.

19. **ORIGINAL** **COPY**
Mr. Steve Michaels Mr. Stevie Michaels
512 Pacific Coast Highway 512 Pacific Coast Highway
Malibu CA 91195 Malibu CA 91195

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following error can be found:

- In the COPY, "Stevie" should be spelled "Steve" as shown in the ORIGINAL.

One error can be found; therefore, choice **A** is the correct answer.

20. **ORIGINAL** **COPY**
Thomas, S. 211 S. Pine St., Arcadia Tomas, S. 11 S. Pine St., Arcadia
Torres, P. 18468 Oak Ave., Downey Torres, P. 18668 Oak Ave., Downey
Barkley, K. 801 Gladys Way, Cerritos Barkley, K. 801 Gladis Way, Cerritos

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following four errors can be found:

- In the COPY, "Tomas" should be spelled "Thomas" as shown in the ORIGINAL.
- In the COPY, "11" should be "211" as shown in the ORIGINAL.
- In the COPY, "18668 Oak Ave." should be "18468 Oak Ave." as shown in the ORIGINAL.
- In the COPY, "Gladis Way" should be spelled "Gladys Way" as shown in the ORIGINAL.

Four errors can be found; therefore, choice **D** is the correct answer.

- | | | |
|-----|---|--|
| 23. | <p><u>ORIGINAL</u>
 Ms. Mary Martinez
 13258 West Sorensen Way,
 Apt. 12B
 Montebello CA 90640</p> | <p><u>COPY</u>
 Ms. Mary Martinez
 13258 West Sorensen Way
 Apt. 12D
 Montebello CA 90640</p> |
|-----|---|--|

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following two errors can be found:

- In the COPY, a comma should be placed after "Way" as shown in the ORIGINAL.
- In the COPY, "12D" should be "12B" as shown in the ORIGINAL.

Two errors can be found; therefore, choice **B** is the correct answer.

- | | | |
|-----|---|--|
| 24. | <p><u>ORIGINAL</u>
 Consumer Price Index, 1996-1998.
 All Urban Consumers,
 1996 157.5
 1997 160.0
 1998 162.3</p> | <p><u>COPY</u>
 Consumer Price Index, 1996-1998.
 All Urben Consumers
 1996 157.5
 1997 160.0
 1998 162.8</p> |
|-----|---|--|

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following three errors can be found:

- In the COPY, "Urben" should be spelled "Urban" as shown in the ORIGINAL.
- In the COPY, a comma should be inserted after "Consumers" as shown in the ORIGINAL.
- In the COPY, "162.8" should be "162.3" as shown in the ORIGINAL.

Three errors can be found; therefore, choice **C** is the correct answer.

25.	<p><u>ORIGINAL</u> Average Annual Precipitation, Selected Cities: Albuquerque NM8.5 Burlington VT 34.0 Las Vegas NV4.1 New York NY46.7 Portland OR..... 37.5</p>	<p><u>COPY</u> Average Annual Precipitation, Selected Cities: Albuquerque NN8.5 Burlington VT 34.0 Las Vegas NV4.1 New York NY46.6 Portland OR..... 37.5</p>
-----	--	--

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following two errors can be found:

- In the COPY, "NN" should be "NM" as shown in the ORIGINAL.
- In the COPY, "46.6" should be "46.7" as shown in the ORIGINAL.

Two errors can be found; therefore, choice **B** is the correct answer.

26. **ORIGINAL**

Average number of sunny days per year, selected cities:

Chicago IL.....	84
Columbus OH	72
Honolulu HI	90
Los Angeles CA	186
Miami FL	74

COPY

Average number of sunny days per year, seleccted cities:

Chicago IL	84
Columbus OH	72
Honolulu HI	90
Los Angeles CA	186
Miami FL.....	74

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following error can be found:

- In the COPY, "seleccted" should be spelled "selected" as shown in the ORIGINAL.

One error can be found; therefore, choice **A** is the correct answer.

27.	<p><u>ORIGINAL</u></p> <p>U.S. Census Bureau 2002 Estimated Population Southern California Coastal Cities: Hermosa Beach 19,200 Long Beach 473,100 Malibu 13,050 Manhattan Beach 35,500</p>	<p><u>COPY</u></p> <p>U.S Census Bureau 2002 Estimated Population Southern California Costal Cities: Hermosa Beach 19,200 Long Beach 473,100 Malibu 13,000 Manhatan Beach 35,500</p>
-----	--	---

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following four errors can be found:

- In the COPY, a period should be placed after the "S" in "U.S." as shown in the ORIGINAL.
- In the COPY, "Costal" should be spelled "Coastal" as shown in the ORIGINAL.
- In the COPY, "13,000" should be "13,050" as shown in the ORIGINAL.
- In the COPY, "Manhatan" should be spelled "Manhattan" as shown in the ORIGINAL.

Four errors can be found; therefore, choice **D** is the correct answer.

28. **ORIGINAL** **COPY**
Mr. Emeril Legassi Mr. Emeril Legasi
4258 Roxbury Drive, Suite 102 4218 Roxbury Drive, Suite 102
Beverly Hills, CA 90210 Beverly Hills, CA 90210

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following two errors can be found:

- In the COPY, "Legasi" should be "Legassi" as shown in the ORIGINAL.
- In the COPY, "4218" should be "4258" as shown in the ORIGINAL.

Two errors can be found; therefore, choice **B** is the correct answer.

29. **ORIGINAL** **COPY**
- | <i>Employee Name</i> | <i>Phone No.</i> | <i>Employee Name</i> | <i>Phone No.</i> |
|----------------------|------------------|----------------------|------------------|
| Long, N. | (323) 568-2521 | Long, N. | (323) 588-2521 |
| Nguyen, Q. | (562) 741-4584 | Nguyen, Q. | (562) 741-4584 |
| Petrie, C. | (310) 323-6255 | Petrie, C. | (310) 323-6255 |
| Sanchez, V. | (310) 362-9545 | Sanchez, V. | (310) 362-9545 |

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following error can be found:

- In the COPY, "(323) 588-2521" should be "(323) 568-2521" as shown in the ORIGINAL.

One error can be found; therefore, choice **A** is the correct answer.

30.	<u>ORIGINAL</u>		<u>COPY</u>	
	<u>Applicant</u>	<u>Interview Date</u>	<u>Applicant</u>	<u>Interview Date</u>
	Anderson, Alice	January 5, 2003	Andersen, Alice	January 5, 2003
	Chavez, Peter	January 6, 2003	Chaves, Peter	January 8, 2003
	Lee, David	January 6, 2003	Lee, David	January 6, 2003
	Rogers, Martha	January 3, 2003	Rogers, Martha	January 3, 2003

The number of errors in the **COPY** when compared to the **ORIGINAL** is

- A. one.
- B. two.
- C. three.
- D. none of these.

ANSWER: When comparing the COPY to the ORIGINAL, the following three errors can be found:

- In the COPY, "Andersen" should be spelled "Anderson" as shown in the ORIGINAL.
- In the COPY, "Chaves" should be spelled "Chavez" as shown in the ORIGINAL.
- In the COPY, "January 8, 2003" should be "January 6, 2003," as shown in the ORIGINAL.

Three errors can be found; therefore, choice **C** is the correct answer.

BASIC ARITHMETIC ABILITY

INSTRUCTIONS: To answer questions 31-45, select the ONE BEST answer from the choices provided.

NOTE: Typically, there are multiple ways of obtaining the correct answer to each question, only one of which is provided as the answer explanation. Use the math glossary on page 33 to help you define any terms with which you may be unfamiliar.

31. .306
 47.624
 5.189
 + .0004

- A. 52.7594
- B. 53.1194
- C. 54.1194
- D. 54.9753

ANSWER: The sum is 53.1194; therefore, choice **B** is the correct answer.

EXPLANATION:

- To solve, set up the problem by aligning all decimal points. You may wish to add zero placeholders (shown in bold) to help ensure that the columns are aligned correctly (Step #1).
- Working right to left, add down each column, carrying values over to the next column as necessary. For example, in the second farthest column from the right, the sum is 19. Leave only the answer of 9 in that column and carry the 1 over to the next column to the left. Repeat for each column, making sure to carry down the decimal point in the appropriate column to maintain alignment, which results in 53.1194 (Step #2).

STEP #1

$$\begin{array}{r} \mathbf{00.3060} \\ 47.6240 \\ \mathbf{05.1890} \\ + \mathbf{00.0004} \\ \hline \end{array}$$

STEP #2

$$\begin{array}{r} 111 \\ \mathbf{00.3060} \\ 47.6240 \\ \mathbf{05.1890} \\ + \mathbf{00.0004} \\ \hline 53.1194 \end{array}$$

32.
$$\begin{array}{r} 398.62 \\ - 386.45 \\ \hline \end{array}$$

- A. 12.17
- B. 12.27
- C. 12.37
- D. 12.47

ANSWER: The difference is 12.17; therefore, choice **A** is the correct answer.

EXPLANATION:

- To solve, set up the problem by aligning all decimal points. Working right to left, carry 1 over from the column to the left when the bottom number for a column is bigger than its top number (Step #1). For example, in the column farthest to the right, the 5 on the bottom is bigger than the 2 on the top, so you will need to carry 1 over from the column to the left, changing the 2 to 12 and the 6 to 5.
- Working right to left, solve by subtracting the bottom number in each column from the top one, making sure to carry down the decimal point in the appropriate column to maintain alignment, which results in 12.17 (Step #2).

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} 5 12 \\ 398.\mathbf{62} \\ - 386.45 \\ \hline \end{array}$	$\begin{array}{r} 5 12 \\ 398.\mathbf{62} \\ - 386.45 \\ \hline 12.17 \end{array}$

33.
$$\begin{array}{r} 335 \\ \times 12 \\ \hline \end{array}$$

- A. 3650
- B. 3720
- C. 4020
- D. 4510

ANSWER: 335×12 is 4,020; therefore, choice **C** is the correct answer.

EXPLANATION:

- To solve, working from **right to left**, multiply each digit in the number 335 by the 2 in the number 12, making sure to carry values over to the next column as necessary, for an answer of 670 (Step #1).
- Since the 1 is in the second column from the right of the whole number 12 (also called the "tens" column), add a zero placeholder (shown in bold) in the first column from the right (also called the "ones" column) of the answer, so that the answer is aligned with the 1. Multiply each digit in the number 335 by the 1 in the number 12, making sure to carry values over to the next column as necessary, for an answer of 335**0**.
- Add the answers of the two steps above, which results in 4,020 (Step #3).

<u>STEP #1</u>	<u>STEP #2</u>	<u>STEP #3</u>
$\begin{array}{r} 1 \\ 335 \\ \times 12 \\ \hline 670 \end{array}$	$\begin{array}{r} 335 \\ \times 12 \\ \hline 670 \\ 3350 \end{array}$	$\begin{array}{r} 335 \\ \times 12 \\ \hline 670 \\ + 3350 \\ \hline 4020 \end{array}$

34. $4585 \div 5 =$

- A. 916
- B. 917
- C. 918
- D. 921

ANSWER: $4585 \div$ by 5 is 917; therefore, choice **B** is the correct answer.

EXPLANATION:

- To solve, working from left to right, divide each digit in the number 4585 by 5. Since 5 is bigger than the first digit in 4585, move over one column and divide the first 2 digits of the number 4585 by 5. 45 divided by 5 results in an answer of 9, which is placed above the last digit of the number that was divided, which is above the 5 in the number 45. Multiply 5 by 9, and place the answer (45) underneath the number that was divided (45), and subtract for an answer of 0 (Step #1).
- Carry down the next value to be divided in 4585, which is 8, and place it next to the 0 from Step #1. Divide 08, or 8, by 5, which results in an answer of 1, which is placed above the 8 in 4585. Multiply 5 by 1, and place the answer (5) underneath the number that was divided (8), and subtract for an answer of 3 (Step #2).
- Carry down the next value to be divided in 4585, which is 5, and place it next to the 3 from Step #2. Divide 35 by 5, which results in an answer of 7, which is placed above the last digit of the number that was divided, which is above the 5 in the number 35. Multiply 5 by 7, place the answer (35) underneath the number that was divided (35), and subtract for an answer of 0 (Step #3).
- No remaining value is left, so the answer is the whole number 917.

<u>STEP #1</u>	<u>STEP #2</u>	<u>STEP #3</u>
$\begin{array}{r} 9 \\ 5 \overline{) 4585} \\ \underline{-45} \\ 0 \end{array}$	$\begin{array}{r} 91 \\ 5 \overline{) 4585} \\ \underline{-45} \\ 08 \\ \underline{-5} \\ 3 \end{array}$	$\begin{array}{r} 917 \\ 5 \overline{) 4585} \\ \underline{-45} \\ 08 \\ \underline{-5} \\ 35 \\ \underline{-35} \\ 0 \end{array}$

35. $\frac{7}{9} - \frac{5}{18}$

- A. $\frac{2}{13}$
- B. $\frac{4}{11}$
- C. $\frac{4}{10}$
- D. $\frac{1}{2}$

ANSWER: $\frac{7}{9} - \frac{5}{18}$ is $\frac{1}{2}$; therefore, choice **D** is the correct answer.

EXPLANATION:

- To solve, find the least common multiple (LCM) for the denominator of each fraction. The LCM is the smallest non-zero number that is a multiple of both denominators. In this problem, the LCM is 18.
- Since $\frac{5}{18}$ already has a denominator of 18, only $\frac{7}{9}$ needs to be converted to have a denominator of 18. Since the LCM divided by the denominator is 2, multiply both the numerator and denominator in $\frac{7}{9}$ by 2, so that the fraction becomes $\frac{14}{18}$ (Step #1).
- Subtract $\frac{5}{18}$ from $\frac{14}{18}$ (by subtracting the numerators), for a difference of $\frac{9}{18}$ (Step #2).
- Simplify $\frac{9}{18}$ by dividing both the numerator and denominator each by the numerator value (9) to equal $\frac{1}{2}$ (Step #3).

<i>STEP #1</i>	<i>STEP #2</i>	<i>STEP #3</i>
$\frac{7 \times 2}{9 \times 2} = \frac{14}{18}$	$\frac{14}{18} - \frac{5}{18} = \frac{9}{18}$	$\frac{9 \div 9}{18 \div 9} = \frac{1}{2}$

36.

$$\frac{3}{14} \times \frac{7}{9}$$

- A. 1/6
- B. 6/7
- C. 10/23
- D. 27/98

ANSWER: 3/14 multiplied by 7/9 is 1/6; therefore choice **A** is the correct answer.

EXPLANATION:

- To solve, multiply the numerators of each fraction ($3 \times 7 = 21$) and the denominators of each fraction ($14 \times 9 = 126$) to equal 21/126 (Step #1).
- Simplify 21/126 by dividing the numerator and denominator each by the numerator value (21), to equal 1/6.

$$\begin{array}{ccc} \textit{STEP \#1} & & \textit{STEP \#2} \\ \frac{3 \times 7}{14 \times 9} = \frac{21}{126} & & \frac{21 \div 21}{126 \div 21} = \frac{1}{6} \end{array}$$

37. _____ is 40% of 350.

- A. 135
- B. 140
- C. 145
- D. 150

ANSWER: 140 is 40% of 350; therefore, choice **B** is the correct answer.

EXPLANATION:

- Convert 40% to a decimal by dividing 40 by 100. Set up the problem by adding a decimal point and a zero placeholder (shown in bold), to make 40 into 40.**0**. Next, determine the decimal place for the answer by counting the number of zero placeholders you added to 40 to make it divisible by 100. Since one zero was added to 40, count backwards from right to left one decimal place to convert the answer to .4 (Step #1).
- Multiply 350 by .4. Add a decimal point and a zero placeholder (shown in bold) to make 350 into 350.**0** to match the number of decimal places in the number it is being multiplied with (.4) and vertically align the decimal points in the two numbers. Count the number of decimal places to the right of the decimal point in 350.0 and .4 (which equals two) to determine that the answer should also have two decimal places. Count backwards from right to left two places and insert a decimal point, which results in 140.00, or 140 (Step #2).

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} .4 \\ 100 \overline{) 40.\mathbf{0}} \\ \underline{-40.0} \\ 0 \end{array}$	$\begin{array}{r} 2 \\ 350.\mathbf{0} \\ \times .4 \\ \hline 140.00 \end{array}$

38. 6880 is _____% of 8000.

- A. 82
- B. 84
- C. 86
- D. 88

ANSWER: 6880 is 86% of 8000; therefore, choice **C** is the correct answer.

EXPLANATION:

- To solve, divide 6880 by 8000. Set up the problem by adding a decimal point and zero placeholders (shown in bold), to make 6880 into 6880.**00**. Next, determine the decimal place for the answer by counting the number of zeros you added to 6880 to make it divisible by 8000. Since two zeros were added to 6880, count backwards from right to left two decimal places to convert the answer to .86 (Step #1).
- Multiply .86 by 100 to convert to a percent. Add a decimal point and zero placeholders (shown in bold) to make 100 into 100.**00** to match the number of decimal places in the number it is being multiplied with (.86) and vertically align the decimal points in the two numbers. Count the number of decimal places to the right of the decimal point in 100.00 and .86 (which equals four) to determine that the answer should also have four decimal places. Count backwards from right to left four places and insert a decimal point, which results in 86.0000, or 86%.

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} .86 \\ 8000 \overline{) 6880.00} \\ \underline{-6400.00} \\ 480.00 \\ \underline{-480.00} \\ 0 \end{array}$	$\begin{array}{r} 100.00 \\ \times .86 \\ \hline 60000 \\ + 80000 \\ \hline 86.0000 \end{array}$

39. 270 is 75% of _____.

- A. 360
- B. 375
- C. 380
- D. 395

ANSWER: 270 is 75% of 360; therefore, choice **A** is the correct answer.

EXPLANATION:

- To solve, convert 75% to a decimal by dividing 75 by 100. Set up the problem by adding a decimal point and zero placeholders (shown in bold), to make 75 into 75.**00**. Next, determine the decimal place for the answer by counting the number of zero placeholders you added to 75 to make it divisible by 100. Since two zeros were added to 75, count backwards from right to left two decimal places to convert the answer to .75 (Step #1).
- Divide 270 by .75. Set up the problem by converting the decimal to a whole number by moving the decimal point to the right two places. .75 becomes the whole number 75. Move the decimal place in 270 the same number of places to the right so that 270 becomes 27000. Divide 27000 by 75 which results in 360 (Step #2).

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} .75 \\ 100 \overline{) 75.\mathbf{00}} \\ \underline{-70.0} \\ 5.00 \\ \underline{-5.00} \\ 0 \end{array}$	$\begin{array}{r} 360 \\ 75 \overline{) 27000} \\ \underline{-225} \\ 450 \\ \underline{-450} \\ 00 \end{array}$

$$\begin{array}{r}
 40. \quad 8 \text{ days } 15 \text{ hours } 20 \text{ minutes} \\
 + \quad 6 \text{ days } 8 \text{ hours } 45 \text{ minutes} \\
 \hline
 \end{array}$$

- A. 14 days, 5 minutes
- B. 14 days, 45 minutes
- C. 15 days, 5 minutes
- D. 16 days, 25 minutes

ANSWER: The sum is 15 days, 5 minutes; therefore, choice **C** is the correct answer.

EXPLANATION:

- To solve, remember that there are 60 minutes in 1 hour and 24 hours in 1 day, and that you add from right to left, carrying over excess values to the next column to the left.
- Add the “minutes” measurements for a total of 65 minutes (Step #1).
- Convert the 65 minutes to 1 hour and 5 minutes and carry the 1 hour over to the “hours” measurements.
- Add the “hours” measurements for a total of 24 hours (Step #2).
- Convert 24 hours to 1 day and carry the 1 day over to the “days” measurements.
- Add the “days” measurements for a total of 15 days (Step #3). As a result, the total of all measurements is 15 days, 5 minutes.

STEP #1

$$\begin{array}{r}
 8 \text{ days } 15 \text{ hrs } 20 \text{ min} \\
 + 6 \text{ days } 8 \text{ hrs } 45 \text{ min} \\
 \hline
 \phantom{8 \text{ days } 15 \text{ hrs }} 65 \text{ min}
 \end{array}$$

STEP #2

$$\begin{array}{r}
 \phantom{8 \text{ days }} 1 \text{ hr} \\
 8 \text{ days } 15 \text{ hrs } 20 \text{ min} \\
 + 6 \text{ days } 8 \text{ hrs } 45 \text{ min} \\
 \hline
 24 \text{ hrs } 5 \text{ min}
 \end{array}$$

STEP #3

$$\begin{array}{r}
 \phantom{8 \text{ days }} 1 \text{ day} \\
 8 \text{ days } 15 \text{ hrs } 20 \text{ min} \\
 + 6 \text{ days } 8 \text{ hrs } 45 \text{ min} \\
 \hline
 15 \text{ days } \phantom{15 \text{ hrs }} 5 \text{ min}
 \end{array}$$

$$\begin{array}{r}
 41. \quad 3 \text{ feet } 2 \frac{1}{4} \text{ inches} \\
 \quad 7 \text{ feet } 5 \frac{3}{4} \text{ inches} \\
 + 13 \text{ feet } 8 \frac{1}{2} \text{ inches} \\
 \hline
 \end{array}$$

- A. 24 feet, $4\frac{1}{4}$ inches
- B. 24 feet, $4\frac{1}{2}$ inches
- C. 25 feet, $11\frac{1}{4}$ inches
- D. 25 feet, $11\frac{1}{2}$ inches

ANSWER: The sum is 24 feet, $4\frac{1}{2}$ inches; therefore, choice **B** is the correct answer.

EXPLANATION:

- To solve, remember that there are 12 inches in 1 foot and that you add from right to left, carrying over excess values to the next column to the left.
- Add the "inches" measurements for a total of $16\frac{1}{2}$ inches (Step #1).
- Convert the $16\frac{1}{2}$ inches to 1 foot, $4\frac{1}{2}$ inches and carry the 1 foot over to the "feet" measurements.
- Add the "feet" measurements for a total of 24 feet (Step #2). As a result, the total of all measurements is 24 feet, $4\frac{1}{2}$ inches.

STEP #1

$$\begin{array}{r}
 3 \text{ feet } 2 \frac{1}{4} \text{ inches} \\
 7 \text{ feet } 5 \frac{3}{4} \text{ inches} \\
 + 13 \text{ feet } 8 \frac{1}{2} \text{ inches} \\
 \hline
 16 \frac{1}{2} \text{ inches}
 \end{array}$$

STEP #2

$$\begin{array}{r}
 \textit{1 foot} \\
 3 \text{ feet } 2 \frac{1}{4} \text{ inches} \\
 7 \text{ feet } 5 \frac{3}{4} \text{ inches} \\
 + 13 \text{ feet } 8 \frac{1}{2} \text{ inches} \\
 \hline
 24 \text{ feet } 4 \frac{1}{2} \text{ inches}
 \end{array}$$

42. $8251 + 2419 =$

- A. 10,340
- B. 10,450
- C. 10,560
- D. 10,670

ANSWER: The sum is 10,670; therefore, choice **D** is the correct answer.

EXPLANATION:

- Set up the problem by lining numbers up vertically (Step #1).
- Working right to left, add each column, remembering to carry values over to the column to the left as necessary (Step #2).

STEP #1

$$\begin{array}{r} 8251 \\ + 2419 \\ \hline \end{array}$$

STEP #2

$$\begin{array}{r} 1 \\ 8251 \\ + 2419 \\ \hline 10670 \end{array}$$

43. $10.900 - 6.782 =$

- A. 3.127
- B. 3.228
- C. 4.118
- D. 4.120

ANSWER: The difference is 4.118; therefore, choice **C** is the correct answer.

EXPLANATION:

- Set up the problem by lining up numbers vertically, aligning all decimal points (Step #1).
- Working right to left, set up the problem for solving by carrying values over only when the top value for a column is less than its bottom value (Step #2).
- Subtract all values to determine the difference (Step #3).

<i>STEP #1</i>	<i>STEP #2</i>	<i>STEP #3</i>
	<i>8910</i>	<i>8910</i>
10.900	10. 900	10. 900
<u>- 6.782</u>	<u>- 6.782</u>	<u>- 6.782</u>
		4.118

44.
$$\begin{array}{r} 258.12 \\ \times 3.45 \\ \hline \end{array}$$

- A. 870.415
- B. 890.514
- C. 980.451
- D. 985.514

ANSWER: 258.12 multiplied by 3.45 is 890.514; therefore, choice **B** is the correct answer.

EXPLANATION:

- Multiply 258.12 by each digit in the factor "3.45" separately. You may wish to add zero placeholders (shown in bold) to help ensure that columns are aligned correctly (Step #1).
- Add the products from Step #1 and insert the decimal point in the answer four places from the right, as the factors 258.12 and 3.45 have a total of four decimal places (Step #2).

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} 258.12 \\ \times 3.45 \\ \hline 129060 \\ 1032480 \\ 7743600 \end{array}$	$\begin{array}{r} 258.12 \\ \times 3.45 \\ \hline 129060 \\ 1032480 \\ +7743600 \\ \hline 8905140 \\ \\ 890.514 \end{array}$

45. $3510 \div 13 =$

- A. 250
- B. 260
- C. 270
- D. 280

ANSWER: 3510 divided by 13 is 270; therefore, choice **C** is the correct answer.

EXPLANATION:

- Set up the problem by placing the number to be divided (3510) inside the bar, and the divisor (13) to the left of the vertical bar (Step #1).
- Determine how many times 35 can be divided by 13 and place the number (2) over the 35. Multiply the number (2) by the divisor (13) and subtract the result (26) from the number divided (35) to equal the remainder 9 (Step #2).
- Carry down the next digit in 3510 (1) by placing it next to the remainder from Step #2, to equal 91 (Step #3).
- Repeat Step #2 and Step #3 until all the possibilities of division have been exhausted and there are no other numbers to be divided (Step #4).

<u>STEP #1</u>	<u>STEP #2</u>	<u>STEP #3</u>	<u>STEP #4</u>
$13 \overline{)3510}$	$13 \overline{)3510}$ $\begin{array}{r} 2 \\ -26 \\ \hline 9 \end{array}$	$13 \overline{)3510}$ $\begin{array}{r} 2 \\ -26 \\ \hline 91 \end{array}$	$13 \overline{)3510}$ $\begin{array}{r} 270 \\ -26 \\ \hline 91 \\ -91 \\ \hline 0 \end{array}$

GLOSSARY OF MATHEMATICAL TERMS

Area:	The number of square units that covers a shape or figure.
Denominator:	The bottom part of a fraction. (Example: in the fraction $\frac{3}{4}$, 4 is the denominator.)
Digit:	The ten numerals 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The number 14 has two digits: 1 and 4.
Difference:	The result of subtracting one number from another.
Divisor:	In a division problem, the number that is divided into another (For example when dividing 4 into 20, the 4 would be the divisor, as it is used to divide the number 20 into five parts).
Factor:	One of two or more numerical values that are multiplied together to yield a product.
Fraction:	A number expressed in terms of a numerator and denominator.
Least Common Multiple:	The smallest, non-zero multiple of the denominators of two or more fractions.
Numerator:	The top part of a fraction. (Example, in the fraction $\frac{3}{4}$ 3 is the numerator).
Operation:	Any one of the basic arithmetic functions of addition, subtraction, multiplication, or division.
Product:	The result of two numbers being multiplied together.
Quotient:	The result of dividing one number into another.
Sum:	The result of adding together two or more numbers.