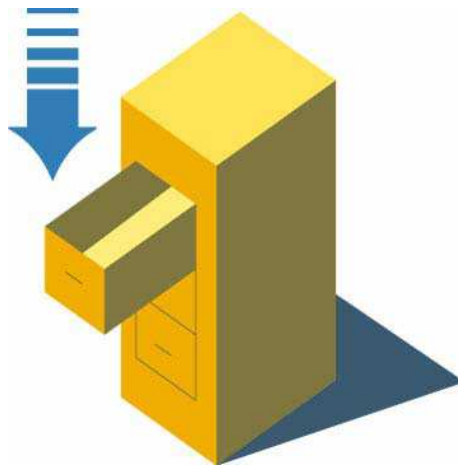




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# Clerical Study Guide & Sample Test Questions Version 2



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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 answers 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 Brian Josten, Francine Johnson, Frank Jones, and Mary Johnston 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 Francine Johnson, Mary Johnston, Frank Jones, and Brian Josten. The underlined name is first; therefore, choice **A** is the correct answer.

2. If the names John Marks, Janice Mark, Angela McCauley, and Jocelyn Miners 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 Janice Mark, John Marks, Angela McCauley, and Jocelyn Miners. The underlined name is second; therefore, choice **B** is the correct answer.

3. If the names Joan Park, Jake Pikes, Jackie Palms, and Jason Pice 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 Jackie Palms, Joan Park, Jason Pice, and Jake Pikes. The underlined name is third; therefore, choice **C** is the correct answer.

4. If the names Abigail Romero, Jonathan Ruben, Erica Ross, and George Rolan 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 George Rolan, Abigail Romero, Erica Ross, and Jonathan Ruben. The underlined name is third; therefore, choice **C** is the correct answer.

5. If the names Barbara Baker, Bruce Biggins, Bobby Boden, and Brian Bronsen 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 Baker, Bruce Biggins, Bobby Boden, and Brian Bronsen. The underlined name is second; therefore, choice **B** is the correct answer.

6. If the names Jeremy Gulden, Jason Gross, Jaime Gains, and James Gray 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 Jaime Gains, James Gray, Jason Gross, and Jeremy Gulden. The underlined name is first; therefore, choice **A** is the correct answer.

7. If the names Harold Williams, Haley Washington, Helen Wellington, and Howard Woo 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 Haley Washington, Helen Wellington, Harold Williams, and Howard Woo. The underlined name is third; therefore, choice **C** is the correct answer.

8. If the numerical sequences 6.259, 0.62958, 62.258, and 6.258963 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 0.62958, 6.258963, 6.259, and 62.258. The underlined sequence is fourth; therefore, choice **D** is the correct answer.

9. If the numerical sequences 7.215, 72.15, 721.5, and 7.251 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 7.215, 7.251, 72.15, and 721.5. The underlined sequence is second; therefore, choice **B** is the correct answer.

10. If the numerical sequences 23.25698, 232.2564, 2.32568, and 0.2351 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 0.2351, 2.32568, 23.25698, and 232.2564. The underlined sequence is fourth; therefore, choice **D** is the correct answer.

11. If the numerical sequences 859.265, 8.59632, 85.2369, and 859652 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 8.59632, 85.2369, 859.265, and 859652. The underlined sequence is first; therefore, choice **A** is the correct answer.

12. If the numerical sequences 1.9978, 199.789, 19.9789, and 1997.89 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 1.9978, 19.9789, 199.789, and 1997.89. The underlined sequence is fourth; therefore, choice **D** is the correct answer.

13. If the numerical sequences 5.1268, 51.263, 551.258, and 55.258 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 5.1268, 51.263, 55.258, and 551.258. The underlined sequence is fourth; therefore, choice **D** is the correct answer.

14. If the numerical sequences 658.963, 6.5268, 6.5269, and 65.259 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 6.5268, 6.5269, 65.259, and 658.963. The underlined sequence is second therefore; choice **B** is the correct answer.

15. If the numerical sequences 78.645, 78.653, 79.100, and 7.8645 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 7.8645, 78.645, 78.653, and 79.100. The underlined sequence is third therefore; choice **C** 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. | <b><u>ORIGINAL</u></b>              | <b><u>COPY</u></b>                   |
|     | Mr. Erin Williams                   | Mrs. Erin Williams                   |
|     | 32109 North 23 <sup>rd</sup> Street | 32109 North 223 <sup>rd</sup> Street |
|     | Gardena CA 90228                    | Gardena CA 90248                     |

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, “Mrs.” should be “Mr.” as shown in the ORIGINAL.
- In the COPY, “223<sup>rd</sup>” should be “23<sup>rd</sup>” as shown in the ORIGINAL.
- In the COPY, “90248” should be “90228” as shown in the ORIGINAL.

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



17.	<b><u>ORIGINAL</u></b>	<b><u>COPY</u></b>
	Yearly Staff Totals:	Yearly Staf Total:
	1990..... 123	1990..... 123
	1991..... 119	1991..... 119
	1992..... 124	1992..... 124
	1993..... 120	1993..... 122
	1994..... 121	1994..... 121
	1995..... 111	1995..... 111
	1996..... 126	1996..... 136

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, “Staf” should be “Staff” as shown in the ORIGINAL.
- In the COPY, “Total” should be “Totals” as shown in the ORIGINAL.
- In the COPY, “122” should be “120” as shown in the ORIGINAL.
- In the COPY, “136” should be “126” as shown in the ORIGINAL.

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

18.	<b><u>ORIGINAL</u></b>	<b><u>COPY</u></b>
	TABLE OF CONTENTS	TABLE OF CONTENTS
	INTRODUCTION ..... 1	INTRODUCTION ..... 1
	AUDITING.....5	AUDITING.....5
	INCOME TAX ..... 25	INCOME TAX ..... 25
	BUDGETING ..... 43	BUDGETING ..... 43
	BOOKKEEPING ..... 102	BOOKKEEPING ..... 102
	INDEX..... 163	INDEX..... 163

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, no errors can be found.

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

19.	<b><u>ORIGINAL</u></b>	<b><u>COPY</u></b>
	Mr. Ronald Richardson	Mr. Ronold Richardson
	2012 Clay Blvd.	2012 Clay Blvd
	Los Angeles CA 90012	Los Angeles CA 90002

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, “Ronold” should be spelled “Ronald” as shown in the ORIGINAL.
- In the COPY, a period should be inserted after “Blvd” as shown in the ORIGINAL.
- In the COPY, “90002” should be “90012” as shown in the ORIGINAL.

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

20.     **ORIGINAL**  
Beverly Johnson  
58963 Willow Avenue  
Torrance CA 90501
- COPY**  
Beverly Johnson  
58863 Willow Avenue  
Torrance CA 90501

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, “58863” should be “58963” as shown in the ORIGINAL.

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

21.     **ORIGINAL**  
Marcus A. Johanssen  
21221 So Sequoia Lane  
Alhambra CA 91801
- COPY**  
Marcus A Johanssen  
21221 S Sequoia Lane  
Alambra CA 91801

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, a period should be inserted after the middle initial “A.” as shown in the ORIGINAL.
- In the COPY, “S” should be “So” as shown in the ORIGINAL.
- In the COPY, “Alambra” should be spelled “Alhambra” as shown in the ORIGINAL.

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

22.

**ORIGINAL**

Division Telephone Directory

A

Accsen, Bryon ..... 8795  
Anderson, Nicole..... 5963  
Atkinson, Mitchell..... 8758

B

Barry, Iris..... 5871  
Bormon, Mary..... 5289  
Buccanon, Lance..... 5478

**COPY**

Division Telephone Directory

A

Accen, Bryon ..... 8795  
Anderson, Nicole..... 5963  
Atkinson, Mitchell..... 8757

B

Barry, Iris..... 5871  
Bormon, Mary..... 5289  
Buccanon, Lance..... 5478

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, “Accen” should be spelled “Accsen” as shown in the ORIGINAL.
- In the COPY, “8757” should be “8758” as shown in the ORIGINAL.
- In the COPY, “B” should be underlined, as shown in the ORIGINAL.

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

23. **ORIGINAL**  
*INTERVIEW SIGN-IN SHEET*  
Atkins, Marrison \_\_\_\_\_  
Bass, John \_\_\_\_\_  
Boden, Matthew \_\_\_\_\_  
Cortez, Emily \_\_\_\_\_  
Do, Kathrine \_\_\_\_\_

**COPY**  
*INTERVIEW SIGN-IN SHEET*  
Atkins, Marrison \_\_\_\_\_  
Bass, John \_\_\_\_\_  
Boden, Mathew \_\_\_\_\_  
Cortez, Emily \_\_\_\_\_  
Do, Kathrine \_\_\_\_\_

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, “Mathew” should be spelled “Matthew” as shown in the ORIGINAL.

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

24. **ORIGINAL**  
Jacob Patterson  
14700 East 223<sup>rd</sup> Street  
Carson CA 90746

**COPY**  
Jacob Paterson  
14700 East 223<sup>rd</sup> Street  
Carson CA 90745

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, “Paterson” should be spelled “Patterson” as shown in the ORIGINAL.
- In the COPY, the figure “90745” should be “90746” as shown in the ORIGINAL.

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

25.	<b><u>ORIGINAL</u></b>	<b><u>COPY</u></b>
	Estimated Cost per Year:	Estimated Cost per Year:
	2003.....\$123,548	2003.....\$123,548
	2004.....\$121,295	2004.....\$121,295
	2005.....\$148,587	2005.....\$148,587

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, no errors can be found.

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

26.	<b><u>ORIGINAL</u></b>	<b><u>COPY</u></b>
	Emanuel Hernandez	Emanuel Hernandez
	2121 Overland Ave.	2122 Overland Ave.
	Wilmington CA 90744	Wilmington CA 90744

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, “2122” should be “2121” as shown in the ORIGINAL.

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

27. **ORIGINAL**  
Darrell Montgomery  
62 East Jasmine Lane  
San Diego CA 92173

**COPY**  
Darrel Montgomery  
62 East Jasmine Lane  
San Diego CA 92173

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, “Darrel” should be spelled “Darrell” as shown in the ORIGINAL.

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

28. **ORIGINAL**  
Holly Mason  
31331 Moon River Dr.  
Hollywood CA 90038

**COPY**  
Holly Mason  
31131 Moon River Dr  
Hollywood CA 90038

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, “31131” should be “31331” as shown in the ORIGINAL.
- In the COPY, a period should be inserted after “Dr.” as shown in the ORIGINAL.

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

29. **ORIGINAL**  
Maria Lopez  
14758 Elm Street  
Long Beach, CA 90815

**COPY**  
Marie Lopez  
14758 Elm Street  
Long Beach. CA 90815

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, “Marie” should be spelled “Maria” as shown in the ORIGINAL.
- In the COPY, the period after “Long Beach” should be a comma as shown in the ORIGINAL.

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

30. **ORIGINAL**  
Mr. and Mrs. Eugene Smith  
125 Wilmington St.  
Seattle, WA 98106

**COPY**  
Mr. and Mrs. Eugene Smith  
125 Wilmington St.  
Seattle, WA 98106

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, no errors can be found.

Zero errors can be found; therefore, choice **D** 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 32 to help you define any terms with which you may be unfamiliar.

31.           .782  
              10.298  
              .098  
+         20.120

- A. 30.144
- B. 30.198
- C. 31.244
- D. 31.298

**ANSWER:** The sum is 31.298; therefore, choice **D** 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 farthest column to the right, the sum is 18. Leave only the 8 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 31.298 (Step # 2).

<u>STEP # 1</u>	<u>STEP # 2</u>
	1  2  1
<b>00</b> .782	<b>00</b> .782
10.298	10.298
<b>00</b> .098	<b>00</b> .098
+ <u>20.120</u>	+ <u>20.120</u>
	31.298

32. 
$$\begin{array}{r} 9876.4 \\ - \underline{631.28} \end{array}$$

- A. 9245.12
- B. 9245.22
- C. 9246.32
- D. 9246.62

**ANSWER:** The difference is 9245.12; therefore, choice **A** is the correct answer.

**EXPLANATION:**

- To solve, set up the problem by aligning all decimal points and adding zero placeholders (shown in bold) as necessary. 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 8 on the bottom is bigger than the 0 on the top, so you will need to carry 1 over from the column to the left, changing the 0 to 10 and the 4 to 3.
- 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 9245.12 (Step # 2)

<u>STEP # 1</u>	<u>STEP # 2</u>
$\begin{array}{r} \phantom{0}^3 \phantom{0}^{10} \\ 9876.\mathbf{40} \\ - \underline{631.28} \end{array}$	$\begin{array}{r} \phantom{0}^3 \phantom{0}^{10} \\ 9876.\mathbf{40} \\ - \underline{631.28} \\ \hline 9245.12 \end{array}$

33.

$$\begin{array}{r} 582 \\ \times 874 \\ \hline \end{array}$$

- A. 401,472
- B. 498,257
- C. 508,668
- D. 592,594

**ANSWER:** 582 multiplied by 874 is 508,668; therefore, choice **C** is the correct answer.

**EXPLANATION:**

- To solve, working from **right to left**, multiply each digit in the number 582 by the 4 in the number 874, making sure to carry values over to the next column as necessary, for an answer of 2328 (Step # 1).
- Since the 7 is in the second column from the right of the whole number 874 (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 7. Multiply each digit in the number 582 by the 7 in the number 874, making sure to carry values over to the next column as necessary, for an answer of 4074**0** (Step # 2).
- Since the 8 is in the third column from the right of the whole number 874 (also called the “hundreds” column), add zero placeholders (shown in bold) in the “ones” and “tens” columns of the answer, so that the answer is aligned with the 8. Multiply each digit in the number 582 by the 8 in the number 874, making sure to carry values over to the next column as necessary, for an answer of 4656**00** (Step # 3).
- Add the answers of the three steps above, which results in 508,668 (Step # 4).

<u>STEP # 1</u>	<u>STEP # 2</u>	<u>STEP # 3</u>	<u>STEP # 4</u>
$\begin{array}{r} 3 \\ 582 \\ \times 874 \\ \hline 2328 \end{array}$	$\begin{array}{r} 51 \\ 582 \\ \times 874 \\ \hline 2328 \\ 4074\mathbf{0} \end{array}$	$\begin{array}{r} 61 \\ 582 \\ \times 874 \\ \hline 2328 \\ 4074\mathbf{0} \\ 4656\mathbf{00} \end{array}$	$\begin{array}{r} 582 \\ \times 874 \\ \hline 2328 \\ 4074\mathbf{0} \\ + 4656\mathbf{00} \\ \hline 508668 \end{array}$

34.  $23478 \div 6 =$

- A. 3903
- B. 3913
- C. 3923
- D. 3943

**ANSWER:**  $23478 \div 6$  is 3913; therefore, choice **B** is the correct answer.

**EXPLANATION:**

- To solve, working from left to right, divide each digit in the number 23478 by 6. Since 6 is bigger than the first digit in 23478, move over one column and divide the first 2 digits of the number 23478 by 6. 23 divided by 6 results in an answer of 3, which is placed above the last digit of the number that was divided, which is above the 3 in the number 23. Multiply 6 by 3, and place the answer (18) underneath the number that was divided (23), and subtract for an answer of 5 (Step # 1).
- Carry down the next value to be divided in 23478, which is 4, and place it next to the 5 from Step # 1. Divide 54 by 6, which results in an answer of 9, which is placed above the 4 in 23478. Multiply 6 by 9, and place the answer (54) underneath the number that was divided (54), and subtract for an answer of 0 (Step # 2).
- Repeat with the remaining values in 23478 until no remaining value is left, which results in the whole number 3913 (Step # 3).

<u>STEP #1</u>	<u>STEP #2</u>	<u>STEP #3</u>
$\begin{array}{r} 3 \\ 6 \overline{) 23478} \\ \underline{-18} \\ 5 \end{array}$	$\begin{array}{r} 39 \\ 6 \overline{) 23478} \\ \underline{-18} \\ 54 \\ \underline{-54} \\ 0 \end{array}$	$\begin{array}{r} 3913 \\ 6 \overline{) 23478} \\ \underline{-18} \\ 54 \\ \underline{-54} \\ 07 \\ \underline{-6} \\ 18 \\ \underline{-18} \\ 0 \end{array}$

35.  $\frac{5}{6} - \frac{7}{12}$

- A.  $\frac{1}{4}$
- B.  $\frac{3}{5}$
- C.  $\frac{5}{6}$
- D.  $\frac{7}{9}$

**ANSWER:**  $\frac{5}{6} - \frac{7}{12}$  is  $\frac{1}{4}$ ; therefore, choice **A** 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 12.
- Since  $\frac{7}{12}$  already has a denominator of 12, only  $\frac{5}{6}$  needs to be converted to have a denominator of 12. Since the LCM divided by the denominator is 2, multiply both the numerator and denominator in  $\frac{5}{6}$  by 2, so that the fraction becomes  $\frac{10}{12}$  (Step # 1).
- Subtract  $\frac{7}{12}$  from  $\frac{10}{12}$  (by subtracting the numerators), for a difference of  $\frac{3}{12}$  (Step # 2).
- Simplify  $\frac{3}{12}$  by dividing both the numerator and denominator each by the numerator value (3) to equal  $\frac{1}{4}$  (Step # 3).

<u>STEP # 1</u>	<u>STEP # 2</u>	<u>STEP # 3</u>
$\frac{5 \times 2}{6 \times 2} = \frac{10}{12}$	$\frac{10}{12} - \frac{7}{12} = \frac{3}{12}$	$\frac{3 \div 3}{12 \div 3} = \frac{1}{4}$

36.  $\frac{3}{4} \times \frac{4}{9}$

- A.  $\frac{1}{3}$
- B.  $\frac{2}{7}$
- C.  $\frac{3}{5}$
- D.  $\frac{4}{9}$

**ANSWER:**  $\frac{3}{4}$  multiplied by  $\frac{4}{9}$  is  $\frac{1}{3}$ ; therefore, choice **A** is the correct answer.

**EXPLANATION:**

- To solve, multiply the numerators of each fraction ( $3 \times 4 = 12$ ) and the denominators of each fraction ( $4 \times 9 = 36$ ) to equal  $\frac{12}{36}$  (Step # 1).
- Simplify  $\frac{12}{36}$  by dividing the numerator and denominator each by the numerator value (12), to equal  $\frac{1}{3}$ .

$$\begin{array}{ccc} \underline{\text{STEP \#1}} & & \underline{\text{STEP \#2}} \\ \frac{3 \times 4}{4 \times 9} = \frac{12}{36} & & \frac{12 \div 12}{36 \div 12} = \frac{1}{3} \end{array}$$

37. \_\_\_\_\_ is 90% of 50.

- A. 40
- B. 43
- C. 45
- D. 47

**ANSWER:** 45 is 90% of 50; therefore, choice **C** is the correct answer.

**EXPLANATION:**

- To solve, convert 90% to a decimal by dividing 90 by 100. Set up the problem by adding a decimal point and a zero placeholder (shown in bold), to make 90 into 90.**0**. Next, determine the decimal place for the answer by counting the number of zero placeholders you added to 90 to make it divisible by 100. Since one zero was added to 90, count backwards from right to left one decimal place to convert the answer to .9 (Step # 1).
- Multiply 50 by .9. Add a decimal point and a zero placeholder to make 50 (shown in bold) into 50.**0** to match the number of decimals in the number it is being multiplied with (.9) and vertically align the decimal points in the two numbers. Count the number of decimal places to the right of the decimal point in 50.0 and .9 (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 45.00, or 45 (Step # 2).

<u>STEP #1</u>	<u>STEP #2</u>
$\begin{array}{r} .9 \\ 100 \overline{) 90.\mathbf{0}} \\ \underline{-90.0} \\ 0 \end{array}$	$\begin{array}{r} 50.\mathbf{0} \\ \times \quad .9 \\ \hline 45.00 \end{array}$

38. 16 is \_\_\_\_\_ % of 64.

- A. 22
- B. 23
- C. 24
- D. 25

**ANSWER:** 16 is 25% of 64; therefore, choice **D** is the correct answer.

**EXPLANATION:**

- To solve, divide 16 by 64. Set up the problem by adding a decimal point and zero placeholders (shown in bold), to make 16 into 16.**00**. Next, determine the decimal place for the answer by counting the number of zeros you added to 16 to make it divisible by 64. Since two zeros were added to 16, count backwards from right to left two decimal places to convert the answer to .25 (Step # 1).
- Multiply .25 by 100 to convert to a percent. Add a decimal point and zero placeholders to make 100 (shown in bold) into 100.**00** to match the number of decimals in the number it is being multiplied with 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 .25 (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 25.0000, or 25% (Step # 2).

<i>STEP # 1</i>	<i>STEP # 2</i>
$\begin{array}{r} .25 \\ 64 \overline{)16.00} \\ \underline{-12.80} \\ 3.20 \\ \underline{-3.20} \\ 0 \end{array}$	$\begin{array}{r} 100.00 \\ \times .25 \\ \hline 50000 \\ + 20000 \\ \hline 25.0000 \end{array}$



39. 124 is 62% of \_\_\_\_\_.

- A. 190
- B. 195
- C. 200
- D. 215

**ANSWER:** 124 is 62% of 200; therefore, choice **C** is the correct answer.

**EXPLANATION:**

- To solve, convert 62% to a decimal by dividing 62 by 100. Set up the problem by adding a decimal point and zero placeholders (shown in bold), to make 62 into **62.00**. Next, determine the decimal place for the answer by counting the number of zero placeholders you added to 62 to make it divisible by 100. Since two zeros were added to 62, count backwards from right to left two decimal places to convert the answer to .62 (Step # 1).
- Divide 124 by .62. Set up the problem by converting the decimal to a whole number by moving the decimal point to the right two places. .62 becomes the whole number 62. Move the decimal place in 124 the same number of places to the right so that 124 becomes 12400. Divide 12400 by 62 which results in 200 (Step # 2).

<u>STEP # 1</u>	<u>STEP # 2</u>
$\begin{array}{r} .62 \\ 100 \overline{) 62.00} \\ \underline{-60.0} \\ 2.00 \\ \underline{-2.00} \\ 0 \end{array}$	$\begin{array}{r} 200 \\ 62 \overline{) 12400} \\ \underline{-124} \\ 00 \end{array}$

$$\begin{array}{r}
 40. \quad 4 \text{ days} \quad 13 \text{ hours} \quad 10 \text{ minutes} \\
 \underline{- 2 \text{ days} \quad 16 \text{ hours} \quad 40 \text{ minutes}}
 \end{array}$$

- A. 1 day, 11 hours, 30 minutes
- B. 1 day, 20 hours, 30 minutes
- C. 2 days, 3 hours, 30 minutes
- D. 2 days, 13 hours, 10 minutes

**ANSWER:** The difference is 1 day, 20 hours, 30 minutes; therefore, choice **B** is the correct answer.

**EXPLANATION:**

- To solve, remember that there are 60 minutes in 1 hour and 24 hours in one day. Notice that in the columns for the minutes and hours measurements, the top value is less than the bottom value (i.e., 10 minutes is less than 40 minutes and 13 hours is less than 16 hours). To subtract, you will need to carry values over from larger left columns to smaller right columns so that the top values are bigger than the bottom values.
- Borrow 1 hour (60 minutes) from the hours measurement and carry over to the minutes measurement. 10 minutes becomes 70 minutes and 13 hours becomes 12 hours (Step # 1).
- Borrow 1 day (24 hours) from the days measurement and carry over to the hours measurement. 13 hours becomes 36 hours and 4 days becomes 3 days (Step # 2).
- With the top measurement now converted to 3 days, 36 hours, 70 minutes, you may proceed in subtracting minutes from minutes, hours from hours, and days from days, with the outcome of 1 day, 20 hours, 30 minutes (Step # 3).

<u>STEP #1</u>	<u>STEP #2</u>	<u>STEP #3</u>
$  \begin{array}{r}  4 \text{ days} \quad 12 \text{ hrs} \quad 70 \text{ min} \\  \underline{- 2 \text{ days} \quad 16 \text{ hrs} \quad 40 \text{ min}}  \end{array}  $	$  \begin{array}{r}  3 \text{ days} \quad 36 \text{ hrs} \quad 70 \text{ min} \\  \underline{- 2 \text{ days} \quad 16 \text{ hrs} \quad 40 \text{ min}}  \end{array}  $	$  \begin{array}{r}  3 \text{ days} \quad 36 \text{ hrs} \quad 70 \text{ min} \\  \underline{- 2 \text{ days} \quad 16 \text{ hrs} \quad 40 \text{ min}} \\  1 \text{ day} \quad 20 \text{ hrs} \quad 30 \text{ min}  \end{array}  $

41.      4 feet 3  $\frac{3}{4}$  inches  
           9 feet 5  $\frac{1}{2}$  inches  
           11 feet 7  $\frac{1}{4}$  inches  
           +            6  $\frac{3}{4}$  inches  
           -----

- A.    24 feet, 3  $\frac{1}{2}$  inches
- B.    25 feet, 11  $\frac{1}{4}$  inches
- C.    26 feet, 1  $\frac{1}{4}$  inches
- D.    26 feet, 11  $\frac{1}{2}$  inches

**ANSWER:** The sum is 25 feet, 11  $\frac{1}{4}$  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 23  $\frac{1}{4}$  inches (Step # 1).
- Convert the 23  $\frac{1}{4}$  inches to 1 foot, 11  $\frac{1}{4}$  inches and carry the 1 foot over to the “feet” measurements.
- Add the “feet” measurements for a total of 25 feet (Step # 2). The total of all measurements, then, is 25 feet, 11  $\frac{1}{4}$  inches.

STEP # 1

$$\begin{array}{r}
 4 \text{ feet } 3 \frac{3}{4} \text{ inches} \\
 9 \text{ feet } 5 \frac{1}{2} \text{ inches} \\
 11 \text{ feet } 7 \frac{1}{4} \text{ inches} \\
 + \qquad 6 \frac{3}{4} \text{ inches} \\
 \hline
 23 \frac{1}{4} \text{ inches}
 \end{array}$$

STEP # 2

$$\begin{array}{r}
 \text{1 foot} \\
 4 \text{ feet } 3 \frac{3}{4} \text{ inches} \\
 9 \text{ feet } 5 \frac{1}{2} \text{ inches} \\
 11 \text{ feet } 7 \frac{1}{4} \text{ inches} \\
 + \qquad 6 \frac{3}{4} \text{ inches} \\
 \hline
 25 \text{ feet } 11 \frac{1}{4} \text{ inches}
 \end{array}$$

42.           65.  
              .7  
          365.1325  
              .1158  
+ 2655.  
-----

- A.    2,085.9483
- B.    2,058.9483
- C.    3,058.9483
- D.    3,085.9483

**ANSWER:** The sum is 3,085.9483; therefore, choice D is the correct answer.

**EXPLANATION:**

- Set up the problem by adding zero placeholders (shown in bold) as necessary to ensure that columns and decimal points are aligned appropriately (Step # 1).
- Working right to left, add each column, making sure to carry values over to the next column to the left as appropriate (Step # 2).

<u>STEP # 1</u>	<u>STEP # 2</u>
0065.0000	111      1 0065.0000
0000.7000	0000.7000
0365.1325	0365.1325
0000.1158	0000.1158
<u>+2655.0000</u>	<u>+2655.0000</u>
	3085.9483

43.  $12.800 - 8.593 =$

- A. 2.207
- B. 4.207
- C. 4.327
- D. 5.207

**ANSWER:** The difference is 4.207; therefore, choice **B** is the correct answer.

**EXPLANATION:**

- Set up the problem by lining numbers up 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).

<u>STEP # 1</u>	<u>STEP # 2</u>	<u>STEP # 3</u>
$12.800$	$12.800$	$12.800$
$- 8.593$	$- 8.593$	$- 8.593$
<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	$7910$	$7910$
	$4.207$	$4.207$

44. 
$$\begin{array}{r} 32.5 \\ \times \quad 5 \\ \hline \end{array}$$

- A. 162.5
- B. 163
- C. 164.5
- D. 165

**ANSWER:** 32.5 multiplied by 5 is 162.5; therefore, choice **A** is the correct answer.

**EXPLANATION:**

Working from right to left, multiply 32.5 by the factor “5.” Insert the decimal point in the product one place from the right, as the factors 32.5 and 5 have a total of one decimal place (Step # 1).

*STEP # 1*

$$\begin{array}{r} 32.5 \\ \times \quad 5 \\ \hline 162.5 \end{array}$$

45.  $2610 \div 18 =$

- A. 90.
- B. 125.
- C. 130.
- D. 145.

**ANSWER:** 2610 divided by 18 is 145; therefore, choice **D** is the correct answer.

**EXPLANATION:**

- Set up the problem by placing the number to be divided (2610) inside the bar, and the divisor (18) to the left of the vertical bar (Step # 1).
- Determine how many times 26 can be divided by 18 and place the number (1) over the 26. Multiply the number (1) by the divisor (18), and subtract the result (18) from the number divided (26) to equal the remainder 8 (Step # 2).
- Carry down the next digit in 2610 (1) by placing it next to the remainder from Step # 2, to equal 81 (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).

STEP #1

$$18 \overline{) 2610}$$

STEP #2

$$\begin{array}{r} 1 \\ 18 \overline{) 2610} \\ \underline{-18} \\ 8 \end{array}$$

STEP #3

$$\begin{array}{r} 1 \\ 18 \overline{) 2610} \\ \underline{-18} \\ 81 \end{array}$$

STEP #4

$$\begin{array}{r} 145 \\ 18 \overline{) 2610} \\ \underline{-18} \\ 81 \\ \underline{-72} \\ 90 \\ \underline{-90} \\ 0 \end{array}$$

## **GLOSSARY OF MATHEMATICAL TERMS**

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