



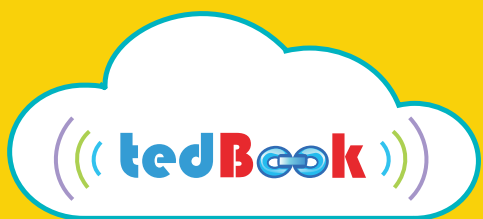
Grade **5**

LOUISIANA

Math

LEAP2025 Practice

Updated for 2021-22



ONLINE

2 LEAP2025 Practice Tests

7 Question Types

30+ SKILLS

Important Instruction

Students, Parents, and Teachers can use the URL or QR code provided below to access two full-length Lumos LEAP practice tests. Please note that these assessments are provided in the Online format only.

URL

Visit the URL below and place the book access code

<http://www.lumoslearning.com/a/tedbooks>

Access Code: xxxxxxxx-xxxxxxx

**This is a sample copy and not the full
version of the workbook**

INTRODUCTION

This book is specifically designed to improve student achievement on the Smarter Balanced Assessment Consortium (LEAP) Test. With over a decade of expertise in developing practice resources for standardized tests, Lumos Learning has designed the most efficient methodology to help students succeed on the state assessments (See Figure 1).

Lumos Smart Test Practice provides students LEAP assessment rehearsal along with an efficient pathway to overcome any standards proficiency gaps. Students perform at their best on standardized tests when they feel comfortable with the test content as well as the test format. Lumos online practice tests are meticulously designed to mirror the LEAP assessment. It adheres to the guidelines provided by the LEAP for the number of questions, standards, difficulty level, sessions, question types, and duration.

The process starts with students taking the online diagnostic assessment. This online diagnostic test will help assess students' proficiency levels in various standards.

After completion of the diagnostic assessment, students can take note of standards where they are not proficient. This step will help parents and educators in developing a targeted remedial study plan based on a student's proficiency gaps.

Once the targeted remedial study plan is in place, students can start practicing the lessons in this workbook that are focused on specific standards.

After the student completes the targeted remedial practice, the student should attempt the second on-line LEAP practice test. Record the proficiency levels in the second practice test to measure the student progress and identify any additional learning gaps. Further targeted practice can be planned to help students gain comprehensive skills mastery needed to ensure success on the state assessment.

Lumos Smart Test Prep Methodology

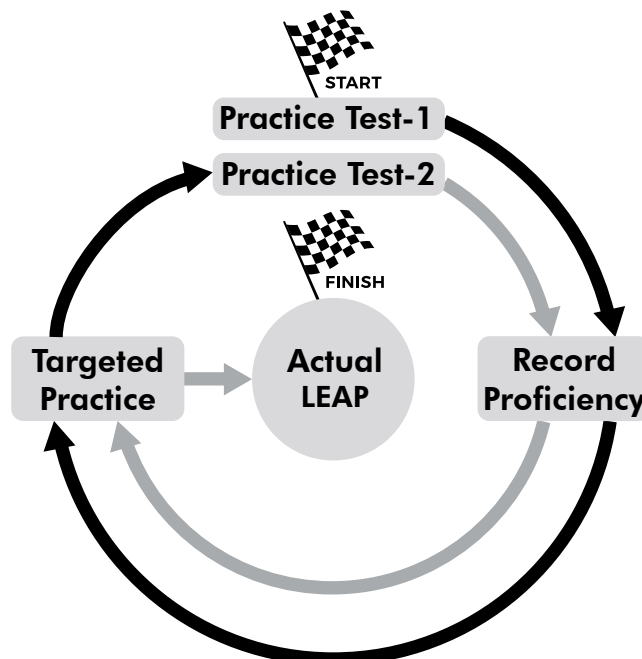


Figure 1

Table of Contents



Introduction	1
Chapter 1 Lumos Smart Test Prep Methodology	6
Chapter 2 Operations and Algebraic Thinking	10
Lesson 1 5.OA.A.1 Write and Interpret Numerical Expressions	10
Lesson 2 5.OA.A.2 Record and Interpret Calculations with Numbers	13
Lesson 3 5.OA.B.3 Analyze Patterns and Relationships	16
Answer Key & Detailed Explanations	25
Chapter 3 Number & Operations in Base Ten	32
Lesson 1 5.NBT.A.1 Place Value	32
Lesson 2 5.NBT.A.2 Multiplication & Division of Powers of Ten	36
Lesson 3 5.NBT.A.3 Read and Write Decimals	40
Lesson 4 5.NBT.A.3 Comparing & Ordering Decimals	44
Lesson 5 5.NBT.A.4 Rounding Decimals	48
Lesson 6 5.NBT.B.5 Multiplication of Whole Numbers	52
Lesson 7 5.NBT.B.6 Division of Whole Numbers	56
Lesson 8 5.NBT.B.7 Add, Subtract, Multiply, and Divide Decimals	60
Answer Key & Detailed Explanations	64
Chapter 4 Number & Operations - Fractions	91
Lesson 1 5.NF.A.1 Add & Subtract Fractions	91
Lesson 2 5.NF.A.2 Problem Solving with Fractions	97
Lesson 3 5.NF.B.3 Interpreting Fractions	102
Lesson 4 5.NF.B.4 Multiply Fractions	106
Lesson 5 5.NF.B.4.B Multiply to Find Area	111
Lesson 6 5.NF.B.5.A Multiplication as Scaling	116
Lesson 7 5.NF.B.5.B Numbers Multiplied by Fractions	120
Lesson 8 5.NF.B.6 Real World Problems with Fractions	124
Lesson 9 5.NF.B.7.A Dividing Fractions	129
Lesson 10 5.NF.B.7.B Dividing by Unit Fractions	133
Lesson 11 5.NF.B.7.C Real World Problems Dividing Fractions	137
Answer Key & Detailed Explanations	141

Chapter 5	Measurement and Data	.....	171
Lesson 1	5.MD.A.1	Converting Units of Measure	171
Lesson 2	5.MD.B.2	Representing and Interpreting Data	175
Lesson 3	5.MD.C.3.A	Volume	191
Lesson 4	5.MD.C.3.B	Cubic Units	196
Lesson 5	5.MD.C.4	Counting Cubic Units	200
Lesson 6	5.MD.C.5.A	Multiply to Find Volume	205
Lesson 7	5.MD.C.5.B	Real World Problems with Volume	209
Lesson 8	5.MD.C.5.C	Adding Volumes	213
		Answer Key & Detailed Explanations	216

Chapter 6	Geometry	.....	232
Lesson 1	5.G.A.1	Coordinate Geometry	232
Lesson 2	5.G.A.2	Real World Graphing Problems	241
Lesson 3	5.G.B.3	Properties of 2D Shapes	251
Lesson 4	5.G.B.4	Classifying 2D Shapes	256
		Answer Key & Detailed Explanations	263

Additional Information	.....	274
LEAP FAQ	.....	274
What if I buy more than one Lumos Study Program?	.....	277
Lumos StepUp® Mobile App FAQ for Students	.....	278
Lumos StepUp® Mobile App FAQ for Parents and Teachers	.....	279
Progress Chart	.....	280

Chapter 1

Lumos Smart Test Prep Methodology

Step 1: Access Online LEAP Practice Test

Use the URL and access code provided below or scan the QR code to access the first LEAP practice test to get started. The online LEAP practice test mirrors the actual Smarter Balanced assessments in number of questions, item types, test duration, test tools and more.

After completing the test, your student will receive immediate feedback with detailed reports on standards mastery. With this report, use the next section of the book to design a practice plan for your student.

URL

Visit the URL below and place the book access code

<http://www.lumoslearning.com/a/tedbooks>

Access Code: xxxxxxxx-xxxxxxx

Step 2: Review the Personalized Study Plan Online

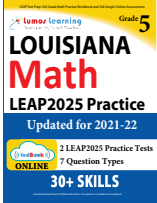
After student complete the online Practice Test 1, student can access their individualized study plan from the table of contents (Figure 2)

Parents and Teachers can also review the study plan through their Lumos account.

Lumos StepUp LEAP Online Practice and Assessments Grade 5 Math							
HOMEWORK							
Lesson Name	Total			Student			
	Questions	Total Points	Incorrect	Score	% Score	Pending	
PT1 Practice Test I	4	4	3	1	25%	0	
| CAT I	4	4	3	1	25%		
| PT I							

Study Plan

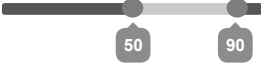
BACK COURSE
Lumos Smart Test Practice: Personalized Study Plan for Sam




Lumos StepUp - LEAP Online Practice and Assessments - Grade 5 Math

Based on your performance in the online Practice Test 1, we recommend the following additional practice. Please use the related lessons in the Grade 5 LEAP Math practice book you purchased.

Upgrade to Full Program





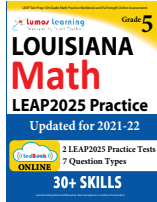
EXPORT AS EXCEL

Lesson Name	Standard Info	<input type="checkbox"/> Targeted practice status	Percentage Score
Operations and Algebraic Thinking			
Write and Interpret Numerical Expressions	5.OA.A.1	<input type="checkbox"/>	0% ●
Record and Interpret Calculations with Numbers	5.OA.A.2	<input type="checkbox"/>	0% ●
Analyze Patterns and Relationships	5.OA.B.3	<input type="checkbox"/>	0% ●

Step 3: Complete Targeted Practice

Using the information provided in the study plan report, complete the targeted practice using the appropriate lessons to overcome proficiency gaps. With lesson names included in the study plan, find the appropriate topics in this workbook and answer the questions provided. Students can refer to the answer key and detailed answers provided for each lesson to gain further understanding of the learning objective. Marking the completed lessons in the study plan after each practice session is recommended. (See Figure 3)

BACK COURSE Lumos Smart Test Practice: Personalized Study Plan for Sam



Lumos StepUp - LEAP Online Practice and Assessments - Grade 5 Math

Based on your performance in the online Practice Test 1, we recommend the following additional practice. Please use the related lessons in the Grade 5 LEAP Math practice book you purchased.

Upgrade to Full Program

50 90

EXPORT AS EXCEL

Lesson Name	Standard Info	<input type="checkbox"/> Targeted practice status	Percentage Score
Operations and Algebraic Thinking			
Write and Interpret Numerical Expressions	5.OA.A.1	<input checked="" type="checkbox"/>	0%
Record and Interpret Calculations with Numbers	5.OA.A.2	<input checked="" type="checkbox"/>	0%
Analyze Patterns and Relationships	5.OA.B.3	<input type="checkbox"/>	0%

Figure 3

Step 4: Access the Practice Test 2 Online

After completing the targeted practice in this workbook, students should attempt the second LEAP practice test online. Using the student login name and password, login to the Lumos website to complete the second practice test.

Step 5: Repeat Targeted Practice

Repeat the targeted practice as per Step 3 using the second study plan report for Practice test 2 after completion of the second LEAP rehearsal.

Visit <http://www.lumoslearning.com/a/lstp> for more information on Lumos Smart Test Prep Methodology or Scan the QR Code





Name _____

Date _____

Chapter 2:

Operations and Algebraic Thinking


Lesson 1: Write and Interpret Numerical Expressions & Patterns

You can scan the QR code given below or use the url to access additional EdSearch resources including videos and mobile apps related to *Write and Interpret Numerical Expressions*.

Categories About 16 results (0.009 seconds)

- Pin (7)
- Questions (4)
- Videos (2)
- Apps (1)
- Free Lessons (1)
- Khan Academy (1)

Evaluating expressions with parentheses +



Resource: Videos

This word problem can be solved by constructing a numerical expression. Can you help? We bet you can!..



Write and Interpret Numerical Expressions & Patterns

URL

QR Code

<http://www.lumoslearning.com/a/5oaa1>



Name _____

Date _____



1. Which of the following number sentences models the Associative Property of Multiplication? Circle the correct answer choice.

Ⓐ $80 \times 5 = (40 \times 5) + (40 \times 5)$

Ⓑ $(11 \times 6) \times 7 = 11 \times (6 \times 7)$

Ⓒ $3 \times 4 \times 2 = 2 \times 4 \times 3$

Ⓓ $44 \times 1 = 44$

2. What is the value of $2 \times [5 - (6 \div 3)]$?

3. Identify the expression that equals 2?

Ⓐ $[(3 \times 2) + 4] \div 5$

Ⓑ $2 \times [(5 \times 4) \div 10]$

Ⓒ $12 - [(4 + 8) \div 3]$

4. Rewrite the equation below substituting a number value for 'a' and an operation for the question mark that would result in a solution of 10.

$20 \div [5 - (a ? 9)] = 10$



Name _____

Date _____

5. Evaluate the expression $(8 \times 6) + (8-3)$?

- Ⓐ 53
- Ⓑ 48
- Ⓒ 64
- Ⓓ 81

6. Where must the parentheses be in the following expression so that the answer is 6?
 $20 - 8 \div 2$

- Ⓐ $20 - (8 \div 2)$
- Ⓑ $(20 - 8) \div 2$

7. Evaluate the expression $4 \times (2 + 1) + 6$.

- Ⓐ 18
- Ⓑ 15
- Ⓒ 21
- Ⓓ 16

8. In a drawing class, crayons were distributed to 12 students. Six of the students got packets that had 8 crayons and the other six got packets that had 10 crayons. How many crayons were distributed in all?

- Ⓐ 110
- Ⓑ 108
- Ⓒ 100
- Ⓓ 112

9. Jeremy had 20 books which he arranged in 4 shelves of a rack. His brother, Brandon takes away 4 books from each of the shelves. How many books are there now in each shelf?

- Ⓐ 4
- Ⓑ 5
- Ⓒ 8
- Ⓓ 1

10. Mary has 15 chocolates that she wants to put into packs of 3. She wants to give these packs to 4 of her friends. Choose the expression that fits the story.

- Ⓐ $(15 \div 3) + 4$
- Ⓑ $(15 \times 3) + 4$
- Ⓒ $(15 \times 3) - 4$
- Ⓓ $(15 \div 3) - 4$

Name _____

Date _____



Chapter 2:
Operations and Algebraic Thinking
Answer Key
&
Detailed Explanations



Name _____

Date _____

Lesson 1: Write and Interpret Numerical Expressions

Question No.	Answer	Detailed Explanations
1	B	The Associative Property of Multiplication states that when three or more numbers are multiplied, the product will be the same no matter how the three numbers are grouped. In this example, multiplying $11 \times 6 \times 7$ will produce the same result whether the 11×6 are grouped together in parentheses or the 6×7 are grouped together. The other options are all mathematically correct, but they show different properties of multiplication.
2	6	When working with parentheses () and brackets [], work from the inside to the outside. First solve the expression in the parentheses. $2 \times [5 - (6 \div 3)] = 2 \times [5 - (2)]$ Next solve the expression in the brackets. $2 \times [5 - (2)] = 2 \times [3]$ Finally, solve the resulting expression. $2 \times [3] = 6$
3	A	When working with parentheses () and brackets [], work from the inside to the outside. $[(3 \times 2) + 4] \div 5 \rightarrow [6 + 4] \div 5 \rightarrow 10 \div 5 \rightarrow 2$ $2 \times [(5 \times 4) \div 10] \rightarrow 2 \times [20 \div 10] \rightarrow 2 \times 2 \rightarrow 4$ $12 - [(4 + 8) \div 3] \rightarrow 12 - [12 \div 3] \rightarrow 12 - 4 \rightarrow 8$
4		Think twenty divided by what is ten. Twenty divided by 2 is 10. Therefore two must equal what is in the brackets, $2 = [5 - (a \div 9)]$. Next think, five minus what is two. Five minus three is two. Therefore three must equal what is in the parentheses, $3 = (a \div 9)$. Now, we can get 3 by subtracting 9 from 12. $3 = 12 - 9$ We can also divide 27 by 9 to get 3. $3 = 27 \div 9$
5	A	First, evaluate the numbers within brackets $8 \times 6 = 48$ $8 - 3 = 5$ Now, in step 2, add both the numbers. $48 + 5 = 53$. Hence, A is the correct answer choice.
6	B	Choice A will be $20 - 4 = 16$, while choice b is $12 \div 2 = 6$. Hence, B is the correct answer choice.
7	A	$4 \times (2 + 1) + 6$ $= 4 \times 3 + 6$ $= 12 + 6$ $= 18$ Hence, answer choice A is correct.

Name _____

Date _____



Question No.	Answer	Detailed Explanations
8	B	$6 \times 8 = 48$ $6 \times 10 = 60$ $48 + 60 = 108$. Hence, answer choice B is correct.
9	D	The problem can be written as $(20 \div 4) - (1 \times 4)$ On solving, we get, $5 - 4 = 1$ Hence, answer choice D is the correct answer choice.
10	D	15 chocolates put into packs of 3 can be written as $(15 \div 3)$. She gives it to 4 of her friends. Hence, $(15 \div 3) - 4$ is the correct answer. Hence, D is the correct answer choice.



Name _____

Date _____

Chapter 3:
Numbers and Operations in Base Ten
Answer Key
&
Detailed Explanations



Lesson 1: Place Value

Question No.	Answer	Detailed Explanations
1	B	The ten thousands place is five places to the left of the decimal, so the 1 is in the ten thousands place.
2	D	The thousandths place is three places to the right of the decimal, so the 6 is in the thousandths place.
3	A	The tenths place is immediately to the right of the decimal. In order to show eight-tenths, use an 8 immediately to the right of the decimal. It is common to use a place-holder 0 in the ones place.
4	C	Write the number 4 in the ones place. The word 'and' indicates the decimal point. The fractional part of the number is three-hundredths, which is shown with a 3 in the hundredths place. Use a placeholder 0 in the tenths place, so the 3 is two places to the right of the decimal.
5	A	The 6 is seven places to the left of the decimal, which is the millions place. Its value is 6 million.
6	C	The 9 is three places to the right of the decimal, which is the thousandths place. Its value is 9 thousandths.
7	D	In order for two numbers to be equal, they must have the same digits in the same place value. In this option, each number has a 5 in the tenths place. The final zeros after the tenths place do not change the value.
8	B	The hundredths place is two places to the right of the decimal. There is a 1 in the hundredths place, so one hundredth less would be 0, making the number 406.50.
9	A	The number 8.4 can be thought of as 8.40 (the final zero does not change the value). In this case, the number 8.41 would be greater because there is 1 hundredth compared to 0 hundredths. The other options are incorrect because they are equal to or less than 8.4 because the digit in the tenths place is lower.
10	D	21.7 has 2 in tens place and 2.17 has no digit in tens place. Therefore, $21.7 > 2.17$. So, option (A) is incorrect. Number in option (B) has a greater digit (7) in the tenths place (2.17 has 1 in tenths place). Option (C) is equal to 2.17. The only option with a smaller digit in the tenths place is 2.07.



Name _____

Date _____

Question No.	Answer	Detailed Explanations															
11	A & D	<p>A digit in one place represents ten times more than the digit to its right and ten times less than the digit to its left.</p> <p>A. The digit 3 in 385.24 is three places to the right of the digit three in 452.38 and is thus $10 \times 10 \times 10 = 1000$ times greater. Statement A is correct.</p> <p>B. The digit 5 in 452.38 is one place to the right of the digit 5 in 385.24 and is thus 10 times greater. Statement B is incorrect.</p> <p>C. The digit 8 in 385.24 is three places to the left of the digit 8 in 452.38 and is thus $10 \times 10 \times 10 = 1000$ times greater. Statement C is incorrect.</p> <p>D. The digit 2 in 452.38 is one place to the left of the digit 2 in 385.24 and is thus 10 times greater. Statement D is correct.</p>															
12		<table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>The 5 in 570.22 is ten times greater than 5 in 456.1.</td> <td><input checked="" type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>The 8 in 2.083 is hundred times less than the 8 in 328.7.</td> <td><input checked="" type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>The 3 in 1.039 is hundred times less than the 3 in 67.3.</td> <td><input type="radio"/></td> <td><input checked="" type="radio"/></td> </tr> <tr> <td>The 2 in 9,523 is thousand times more than the 2 in 45.92</td> <td><input checked="" type="radio"/></td> <td><input type="radio"/></td> </tr> </tbody> </table> <p>The 5 in 570.22 is in the hundreds place. The 5 in 456.1 is in the tens place. Thus the 5 in 570.22 is ten times greater than the 5 in 456.1. Statement A is correct.</p> <p>The 8 in 2.083 is in the hundredths place. The 8 in 328.7 is in the ones place. Thus the 8 in 2.083 is hundred times less than the 8 in 328.7. Statement B is correct.</p> <p>The 3 in 1.039 is in the hundredths place. The 3 in 67.3 is in the tenths place. Thus the 3 in 1.039 is ten times less than the 3 in 67.3. Statement C is incorrect.</p> <p>The 2 in 9,523 is in the tens place. The 2 in 45.92 is in the hundredths place. Thus the 2 in 9,523 is thousand times more than the 2 in 45.92. Statement D is correct.</p>		Yes	No	The 5 in 570.22 is ten times greater than 5 in 456.1.	<input checked="" type="radio"/>	<input type="radio"/>	The 8 in 2.083 is hundred times less than the 8 in 328.7.	<input checked="" type="radio"/>	<input type="radio"/>	The 3 in 1.039 is hundred times less than the 3 in 67.3.	<input type="radio"/>	<input checked="" type="radio"/>	The 2 in 9,523 is thousand times more than the 2 in 45.92	<input checked="" type="radio"/>	<input type="radio"/>
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The 2 in 9,523 is thousand times more than the 2 in 45.92	<input checked="" type="radio"/>	<input type="radio"/>															

Name _____

Date _____



Question No.	Answer	Detailed Explanations
13	Hundredths	The first digit to the right of a decimal point is the tenths place. The next digit to the right is the hundredths place. The correct answer is hundredths because the 3 is two places to the right of the decimal
14	A	The 7 in 539.7 is in the tenths place. A hundred times the tenths place is two places to the left or the tens place. The only answer choice with 7 in the tens place is 172.43. The correct answer is choice A.



Name _____

Date _____

Chapter 4: Number & Operations - Fractions


Lesson 1: Add & Subtract Fractions

You can scan the QR code given below or use the url to access additional EdSearch resources including videos and mobile apps related to *Add & Subtract Fractions*.

Categories About 40 results (0.009 seconds)

- Pin (16)
- Videos (13)
- Khan Academy (5)
- Questions (4)
- Apps (1)
- Free Lessons (1)

Using visuals to add and subtract fractions with unlike denominators

 **Resource:** Videos
Learn to add $5/6 + 1/4$ using a fraction model for help...



Add & Subtract Fractions

URL

QR Code

<http://www.lumoslearning.com/a/5nfa1>





1. Add: $\frac{2}{10} + \frac{1}{10} =$

(A) $\frac{3}{20}$

(B) $\frac{3}{10}$

(C) $\frac{1}{10}$

(D) $\frac{2}{10}$

2. To make a bowl of punch, Joe mixed $1\frac{1}{4}$ gallons of juice with $1\frac{2}{4}$ gallons of sparkling water. How much punch does he have?

(A) $2\frac{3}{4}$ gallons

(B) 3 gallons

(C) $\frac{1}{4}$ gallon

(D) $\frac{3}{4}$ gallon

3. Subtract: $\frac{3}{4} - \frac{2}{4} =$

(A) $\frac{5}{4}$

(B) $\frac{1}{4}$

(C) $\frac{3}{4}$

(D) 1

4. Subtract: $3\frac{4}{10} - 1\frac{1}{10} =$

(A) $1\frac{3}{10}$

(B) $2\frac{1}{10}$

(C) $3\frac{3}{10}$

(D) $2\frac{3}{10}$



Name _____

Date _____

5. To add the fractions $\frac{3}{4}$ and $\frac{7}{12}$, what must first be done?

- (A) Reduce the fractions to lowest terms
- (B) Change to improper fractions
- (C) Make the numerators the same
- (D) Find a common denominator

6. Add: $\frac{1}{2} + \frac{1}{4} =$

- (A) $\frac{2}{6}$
- (B) $\frac{2}{3}$
- (C) $\frac{3}{4}$
- (D) $\frac{1}{2}$

7. Find the difference: $\frac{2}{3} - \frac{1}{9} =$

- (A) $\frac{1}{6}$
- (B) $\frac{5}{9}$
- (C) $\frac{3}{12}$
- (D) $\frac{2}{27}$

8. Find the sum: $2\frac{1}{8} + 5\frac{1}{2} =$

- (A) $7\frac{2}{10}$
- (B) $10\frac{1}{16}$
- (C) $3\frac{1}{6}$
- (D) $7\frac{5}{8}$



9. Find the sum of five and five eighths plus one and one fourth.

- (A) $6\frac{7}{8}$
- (B) $10\frac{6}{8}$
- (C) $6\frac{6}{12}$
- (D) $7\frac{2}{10}$

10. Subtract: $5 - \frac{1}{3} =$

- (A) $5\frac{1}{3}$
- (B) $4\frac{1}{3}$
- (C) $3\frac{2}{3}$
- (D) $4\frac{2}{3}$

11. Jordan had a plank of wood that was $8\frac{5}{16}$ inches long. He sawed off $2\frac{3}{16}$ inches. Now how long is the plank of wood?

- (A) $10\frac{8}{32}$ inches
- (B) $6\frac{1}{4}$ inches
- (C) $6\frac{2}{16}$ inches
- (D) $10\frac{8}{16}$ inches

12. At the beginning of 5th grade, Amber's hair was $8\frac{1}{2}$ inches long. By the end of 5th grade it was $10\frac{3}{4}$ inches long. How many inches did Amber's hair grow during 5th grade?

- (A) $19\frac{1}{4}$ inches
- (B) $18\frac{4}{6}$ inches
- (C) $2\frac{1}{2}$ inches
- (D) $2\frac{1}{4}$ inches



Name _____

Date _____

13. Solve: $\frac{1}{5} + \frac{3}{5} + \frac{4}{5} =$ _____

14. Find the missing number: $4\frac{1}{4} +$ _____ $= 7\frac{1}{2}$

(A) $3\frac{1}{4}$

(B) $3\frac{3}{4}$

(C) $3\frac{1}{2}$

(D) $2\frac{3}{4}$

15. Solve: $\frac{7}{10} - (\frac{4}{10} - \frac{1}{10}) =$

(A) $\frac{2}{10}$

(B) $\frac{4}{10}$

(C) 0

(D) $\frac{3}{10}$

16. Which of the following expression(s) is equivalent to $\frac{2}{3} + \frac{7}{4}$?

Select all the correct answers

(A) $\frac{4}{6} + \frac{9}{6}$

(B) $\frac{8}{12} + \frac{21}{12}$

(C) $\frac{40}{60} + \frac{105}{60}$

(D) $\frac{12}{16} + \frac{28}{16}$

(E) $\frac{20}{36} + \frac{54}{36}$

Name _____

Date _____



17. What is the value of $\frac{3}{5} - \frac{2}{7}$

Write your answer in the box given below



Name _____

Date _____

8. The basketball coach advised all players to drink 2500 milliliters of water during the day before each game. How much is this in liters?
- Ⓐ 0.25 liters
 - Ⓑ 2.5 liters
 - Ⓒ 25 liters
 - Ⓓ 250 liters
9. Sam is painting his house. If he needs $\frac{1}{2}$ liter of paint per room. How many liters of paint is required to paint 4 rooms?
- Ⓐ 2 liters
 - Ⓑ 3 liters
 - Ⓒ 4 liters
 - Ⓓ 5 liters
10. Mathew has $\frac{4}{5}$ of a tank of fuel in his car. He needs $\frac{1}{10}$ of a tank per day. How many days will the fuel in his tank last?
- Ⓐ 6 days
 - Ⓑ 8 days
 - Ⓒ 5 days
 - Ⓓ 7 days

End of Numbers and Operations – Fractions

Name _____

Date _____



Chapter 4:
Numbers and Operations – Fractions
Answer Key
&
Detailed Explanations



Name _____

Date _____

Lesson 1: Add & Subtract Fractions

Question No.	Answer	Detailed Explanations
1	B	When fractions have a common denominator (in this case 10), just add the numerators ($2 + 1 = 3$) and keep the denominator the same.
2	A	Add the whole numbers ($1 + 1$) to get 2. Then add the fractions. As they have a common denominator of 4, just add the numerators ($1 + 2$) to get $\frac{3}{4}$. The total is $2\frac{3}{4}$.
3	B	As the fractions have a common denominator of 4, just subtract the numerators ($3 - 2$) to get $\frac{1}{4}$.
4	D	Subtract the whole numbers ($3 - 1$) to get 2. Then subtract the fractions. Since they have a common denominator of 10, just subtract the numerators ($4 - 1$) to get $\frac{3}{10}$. The total is $2\frac{3}{10}$.
5	D	Fractions must have a common denominator to be added. Multiply both the numerator and the denominator by 3 to get $\frac{9}{12}$ so that both the fractions have a common denominator 12.
6	C	Fractions must have a common denominator to be added. Multiply both the numerator and the denominator by 2 to get $\frac{2}{4}$. Then add the numerators ($2 + 1$) to get the numerator of the sum and keep the common denominator 4, to get the sum, $\frac{3}{4}$.
7	B	For subtracting fractions (proper or improper), find the common denominator and find the equivalent fractions in terms of this common denominator and subtract them. Then, write the fraction in its simplest form. $\frac{2}{3} = \frac{2 \times 3}{3 \times 3} = \frac{6}{9}$ $\frac{2}{3} - \frac{1}{9} = \frac{6}{9} - \frac{1}{9} = \frac{6-1}{9} = \frac{5}{9}$.
8	D	First add the whole numbers ($2 + 5$) to get 7. Then add the fraction parts. Since fractions must have a common denominator to be added, find the equivalent fractions in terms of the common denominator and add them. $\frac{1}{2} \times \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$. $\frac{1}{8} + \frac{1}{2} = \frac{1}{8} + \frac{4}{8} = \frac{1+4}{8} = \frac{5}{8}$. The total is $7\frac{5}{8}$.



Question No.	Answer	Detailed Explanations
9	A	<p>First add the whole numbers ($5 + 1$) to get 6. Then add the fraction parts. Since fractions must have a common denominator to be added, find the equivalent fractions in terms of the common denominator and add them.</p> $\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}$ $\frac{5}{8} + \frac{1}{4} = \frac{5}{8} + \frac{2}{8} = \frac{5+2}{8} = \frac{7}{8}$ <p>The total is $6 \frac{7}{8}$.</p>
10	D	<p>In order to subtract a fraction from a whole number, convert 1 from the whole number into a fraction with a common denominator. The number 1 can be converted to thirds by changing it to $\frac{3}{3}$. That leaves $4 \frac{3}{3} - \frac{1}{3}$. Keep 4 as the whole number & subtract the numerators of the fractions to get $\frac{2}{3}$.</p>
11	C	<p>Subtract the whole numbers ($8 - 2$) to get 6. Then subtract the fractions. Since they have a common denominator of 16, just subtract the numerators ($5 - 3$) to get $\frac{2}{16}$. The total is $6 \frac{2}{16}$.</p>
12	D	<p>To find the amount of growth of hair subtract $8 \frac{1}{2}$ inches from $10 \frac{3}{4}$ inches.</p> $10 \frac{3}{4} - 8 \frac{1}{2} = (10-8) + (\frac{3}{4} - \frac{1}{2})$ <p>Since $\frac{1}{2}$ and $\frac{3}{4}$ do not have a common denominator, multiply both the numerator and the denominator of $\frac{1}{2}$ by 2 to get $\frac{2}{4}$.</p> $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{3}{4} - \frac{2}{4} = \frac{3-2}{4} = \frac{1}{4}$ $10 \frac{3}{4} - 8 \frac{1}{2} = (10-8) + (\frac{3}{4} - \frac{2}{4}) = 2 + \frac{1}{4} = 2 \frac{1}{4} \text{ inches.}$
13	$1 \frac{3}{5}$	<p>Since the fractions all have a common denominator (5), just add the numerators. $1 + 3 + 4 = 8$, keep the common denominator 5 to get sum $\frac{8}{5}$. Convert $\frac{8}{5}$ into mixed fraction. $\frac{8}{5} = 1 \frac{3}{5}$.</p>



Question No.	Answer	Detailed Explanations
14	A	<p>Since this is a missing added problem, it can be solved by subtracting $4\frac{1}{4}$ from $7\frac{1}{2}$. First, subtract the whole numbers (7-4) to get 3. Then subtract the fractions. Since $\frac{1}{2}$ and $\frac{1}{4}$ do not have a common denominator, multiply both the numerator and the denominator of $\frac{1}{2}$ by 2 to get $\frac{2}{4}$.</p> $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{1}{2} - \frac{1}{4} = \frac{2}{4} - \frac{1}{4} = \frac{2-1}{4} = \frac{1}{4}$ $7\frac{1}{2} - 4\frac{1}{4} = (7-4) + (\frac{1}{2} - \frac{1}{4}) = 3 + \frac{1}{4} = 3\frac{1}{4}$
15	B	<p>First, complete the part of the problem in parentheses. As the fractions have a common denominator (10), just subtract the numerators to get $\frac{3}{10}$. Then subtract the $\frac{3}{10}$ from $\frac{7}{10}$ to get $\frac{4}{10}$.</p>
16	B & C	<p>When adding fractions, first get a common denominator. The common denominators of 3 and 4 are multiples of 12 : 12, 24, 36, 48, 60.... This eliminates answer choices A and D, since 6 and 16 are not common denominators of 3 and 4. To get an equivalent fraction, multiply both the numerator and denominator by the same number.</p> <p>(B) $\frac{2}{3} = \frac{(2 \times 4)}{(3 \times 4)} = \frac{8}{12}$; $\frac{7}{4} = \frac{(7 \times 3)}{(4 \times 3)} = \frac{21}{12}$ Therefore, $\frac{8}{12} + \frac{21}{12}$ is an equivalent expression.</p> <p>(C) $\frac{2}{3} = \frac{(2 \times 20)}{(3 \times 20)} = \frac{40}{60}$; $\frac{7}{4} = \frac{(7 \times 15)}{(4 \times 15)} = \frac{105}{60}$ Therefore, $\frac{40}{60} + \frac{105}{60}$ is an equivalent expression.</p> <p>(E) $\frac{2}{3} = \frac{(2 \times 12)}{(3 \times 12)} = \frac{24}{36}$; $\frac{7}{4} = \frac{(7 \times 9)}{(4 \times 9)} = \frac{63}{36}$ Therefore, $\frac{20}{36} + \frac{54}{36}$ is NOT an equivalent expression.</p>
17	$\frac{11}{35}$	<p>When subtracting fractions, first get a common denominator. The lowest common denominator of 5 and 7 is $5 \times 7 = 35$. Write an equivalent expression with denominators of 35 and subtract numerators.</p> $\frac{3}{5} - \frac{2}{7} = \frac{21}{35} - \frac{10}{35} = \frac{11}{35}$

Progress Chart

Standard	Lesson	Page No.	Practice		Mastered	Re-practice /Reteach
			Date	Score		
CCSS						
5.OA.A.1	Write & Interpret Numerical Expressions & Patterns	10				
5.OA.A.2	Record and Interpret Calculations with Numbers	13				
5.OA.B.3	Analyze Patterns and Relationships	16				
5.NBT.A.1	Place Value	32				
5.NBT.A.2	Multiplication & Division of Powers of Ten	36				
5.NBT.A.3.	Read and Write Decimals	40				
5.NBT.A.3.	Comparing and Ordering Decimals	44				
5.NBT.A.4	Rounding Decimals	48				
5.NBT.B.5	Multiplication of Whole Numbers	52				
5.NBT.B.6	Division of Whole Numbers	56				
5.NBT.B.7	Add, Subtract, Multiply, and Divide Decimals	60				
5.NF.A.1	Add & Subtract Fractions	91				
5.NF.A.2	Problem Solving with Fractions	97				
5.NF.B.3	Interpreting Fractions	102				
5.NF.B.4	Multiply Fractions	106				
5.NF.B.4.B	Multiply to Find Area	111				
5.NF.B.5.A	Multiplication as Scaling	116				
5.NF.B.5.B	Numbers Multiplied by Fractions	120				
5.NF.B.6	Real World Problems with Fractions	124				
5.NF.B.7.A	Dividing Fractions	129				
5.NF.B.7.B	Dividing by Unit Fractions	133				
5.NF.B.7.C	Real World Problems Dividing Fractions	137				

Standard	Lesson	Page No.	Practice		Mastered	Re-practice /Reteach
			Date	Score		
CCSS						
5.MD.A.1	Converting Units of Measure	171				
5.MD.B.2	Representing and Interpreting Data	175				
5.MD.C.3.A	Volume	191				
5.MD.C.3.B	Cubic Units	196				
5.MD.C.4	Counting Cubic Units	200				
5.MD.C.5.A	Multiply to Find Volume	205				
5.MD.C.5.B	Real World Problems with Volume	209				
5.MD.C.5.C	Adding Volumes	213				
5.G.A.1	Coordinate Geometry	232				
5.G.A.2	Real World Graphing Problems	241				
5.G.B.3	Properties of 2D Shapes	251				
5.G.B.4	Classifying 2D Shapes	256				



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