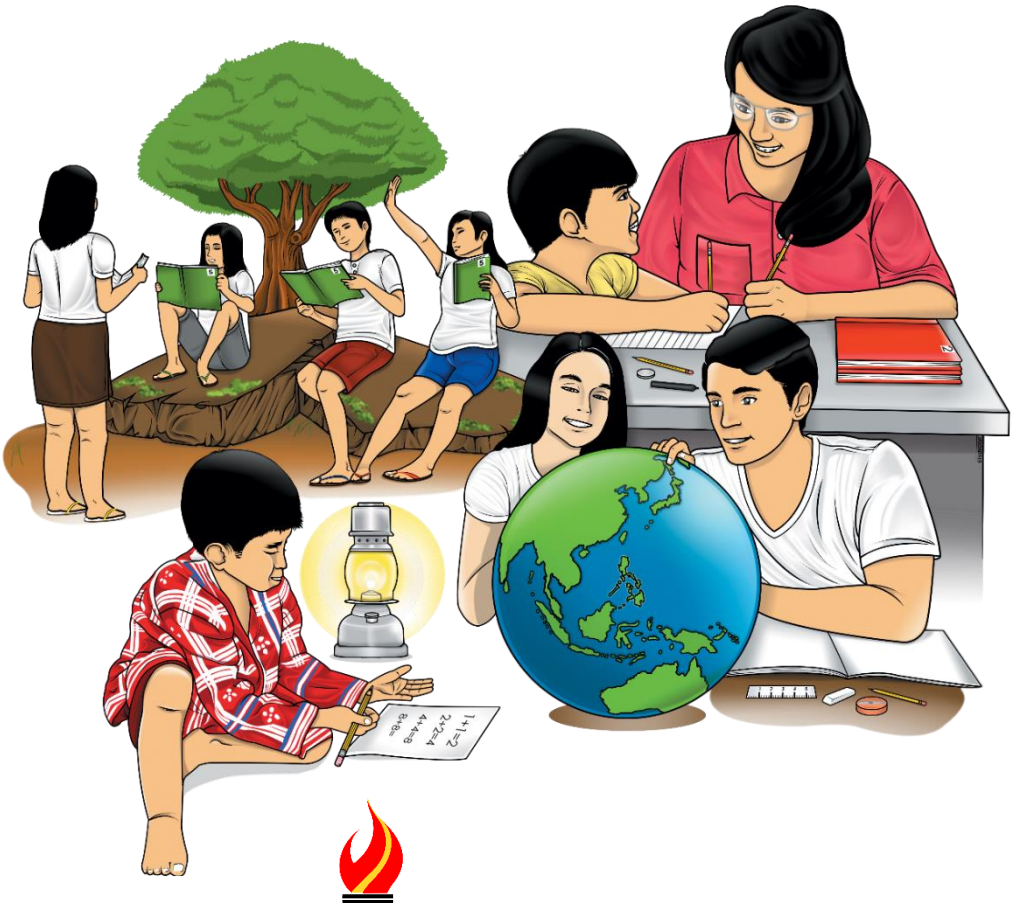
6

Mathematics

Quarter 1 – Module 1: Adding Simple Fractions and Mixed Numbers Without and With Regrouping



ALTERNATIVE DELIVERY MODE

Mathematics – Grade 6
Alternative Delivery Mode
Quarter 1 – Module 1: Adding Simple Fractions and Mixed Numbers Without and With Regrouping
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Mathematics

Quarter 1 – Module 1: Adding Simple Fractions and Mixed Numbers Without and With Regrouping

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Introductory Message

For the facilitator:

Welcome to the Mathematics 6 Alternative Delivery Mode (ADM) Module on Adding Simple Fractions and Mixed Numbers Without and With Regrouping!

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the learner:

Welcome to the Mathematics 6 Alternative Delivery Mode (ADM) Module on Adding Simple Fractions and Mixed Numbers Without and With Regrouping!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:

 ***What I Need to Know***	This will give you an idea of the skills or competencies you are expected to learn in the module.
 ***What I Know***	This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correct (100%), you may decide to skip this module.
 ***What's In***	This is a brief drill or review to help you link the current lesson with the previous one.
 ***What's New***	In this portion, the new lesson will be introduced to you in various ways; a story, a song, a poem, a problem opener, an activity or a situation.
 ***What is It***	This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.
 ***What's More***	This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.
 ***What I Have Learned***	This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.
 ***What I Can Do***	This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.

 ***Assessment***	This is a task which aims to evaluate your level of mastery in achieving the learning competency.
 ***Additional Activities***	In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.
 ***Answer Key***	This contains answers to all activities in the module.

At the end of this module you will also find:

References	This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it!

What I Need to Know

This module was designed and written with you in mind. It is here to help you master addition of fractions and mixed numbers. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is divided into three lessons, namely:

- Lesson 1. Addition of simple fractions without regrouping
- Lesson 2. Addition of simple fractions with regrouping in the sum
- Lesson 3. Addition of fractions and mixed numbers with regrouping in the sum

After going through this module, you are expected to:

1. add simple fractions without regrouping; **(M6NS-Ia-86)**
2. add simple fractions with regrouping; **(M6NS-Ia-86)** and
3. add fractions and mixed numbers with regrouping; **(M6NS-Ia-86)**
4. solve routine and non-routine problems involving addition and/or subtraction of fractions using appropriate problem-solving strategies and tools. **(M6NS-Ia-87.3)**

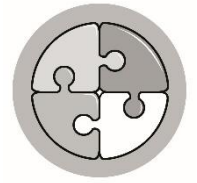
What I Know

Add the following fractions and express your answer to lowest term, if possible. Write your answers on your answer sheet.

1. $\frac{1}{8} + \frac{2}{16} =$
2. $\frac{2}{5} + \frac{1}{4} =$
3. $\frac{1}{7} + \frac{4}{8} =$
4. $\frac{2}{5} + \frac{7}{13} =$
5. $\frac{1}{2} + \frac{1}{3} =$
6. $\frac{8}{10} + \frac{2}{15} =$
7. $\frac{2}{4} + \frac{2}{6} =$
8. $\frac{5}{10} + \frac{2}{12} =$
9. $\frac{1}{4} + \frac{1}{3} =$
10. $\frac{1}{5} + \frac{3}{5} =$

Lesson 1 Adding Simple Fractions Without Regrouping

You have learned how to add similar fractions in the past lesson. Now, you will learn how to add simple fractions without regrouping.



What's In

Give the Least Common Denominator (LCD) of the following pairs of dissimilar fractions. Write your answers on your answer sheet.

1) $\frac{4}{5}$ and $\frac{6}{7}$

2) $\frac{2}{3}$ and $\frac{9}{11}$

3) $\frac{4}{7}$ and $\frac{1}{3}$

4) $\frac{2}{10}$ and $\frac{3}{5}$

5) $\frac{2}{8}$ and $\frac{1}{3}$

What's New

Gia made two types of cookies. She used $\frac{2}{3}$ cup of sugar for one recipe and $\frac{1}{4}$ cup of sugar for the other. How much sugar did she use in all?

What is the sum of $\frac{2}{3}$ and $\frac{1}{4}$?

Hint: Since the denominators of the fractions are not the same, we need to change them into similar fractions for we cannot add directly.

What is It

Find:

$\frac{2}{3} + \frac{1}{4} =$

$\frac{2}{3} = \frac{\square}{12}$ ← LCD

$+$

$\frac{1}{4} = \frac{\square}{12}$ ← LCD

(12 ÷ 3) X 2 = 8

(12 ÷ 4) X 1 = 3

$\frac{2}{3} = \frac{8}{12}$

$+$

$\frac{1}{4} = \frac{3}{12}$

$\frac{11}{12}$ cup of sugar

Step 1. Find the Least Common Denominator (LCD).

Step 2. Find the missing numerators.

To find the missing numerators, divide the LCD by the denominator of the given fraction. Multiply the quotient by the numerator.

Step 3. Add the numerators. Then, write the sum over the common denominator.

Here are some examples for you to study.

A.

$\frac{1}{4} = \frac{2}{8}$

$+$

$\frac{5}{8} = \frac{5}{8}$

$\frac{7}{8}$

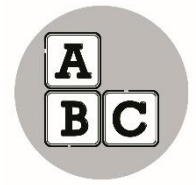
B.

$\frac{5}{10} = \frac{15}{30}$

$+$

$\frac{2}{6} = \frac{10}{30}$

$\frac{25}{30}$ or $\frac{5}{6}$



What's More

Add the following fractions**.** Express your answer to simplest form or lowest term, if needed. Write your answers on your answer sheet.

1) $\frac{2}{8} + \frac{1}{3}$

2) $\frac{1}{2} + \frac{3}{8}$

3) $\frac{1}{4} + \frac{3}{5}$

4) $\frac{5}{11} + \frac{1}{4}$

5) $\frac{4}{7} + \frac{2}{5}$

What I Have Learned

In adding simple fractions without regrouping:

- Find the Least Common Denominator (LCD).
- Rename the dissimilar fractions to their equivalent fractions using the LCD.
- Add the numerators. Then, write the sum over the common denominator.
- Express the answer in simplest form or lowest term, if needed.

What I Can Do

A. Add the following fractions**.** Express your answer to simplest form or lowest term, if needed. Write your answers on your answer sheet.

1) $\frac{1}{3} + \frac{5}{9} =$

2) $\frac{2}{4} + \frac{3}{8} =$

3) $\frac{2}{6} + \frac{1}{5} =$

B. Read and solve the following problems. Show your solutions and express your final answer to simplest form or lowest term. Write it on your answer sheet.

4) Analie worked in her backyard garden. If she worked $\frac{2}{7}$ hour on Saturday and $\frac{3}{7}$ hour on Sunday, how many hours did she work in two days?

5) Angelica cut $\frac{2}{5}$ meter of green cloth, $\frac{1}{4}$ meter of white cloth and $\frac{2}{8}$ meter of pink cloth to make a small table cloth. What is the total length of cloth that Angelica cut?

Assessment

Add the following fractions. Express your answer to simplest form or lowest term, if needed. Write your answers on your answer sheet.

1) $\frac{4}{10} + \frac{1}{5}$

2) $\frac{1}{7} + \frac{1}{4}$

3) $\frac{2}{9} + \frac{6}{9}$

4) $\frac{2}{5} + \frac{3}{8}$

5) $\frac{1}{2} + \frac{2}{5}$

6) $\frac{2}{7} + \frac{1}{2}$

7) $\frac{2}{5} + \frac{5}{10}$

8) $\frac{7}{10} + \frac{2}{10}$

9) $\frac{2}{6} + \frac{1}{2}$

10) $\frac{2}{10} + \frac{1}{2}$

Additional Activities

A. Read and solve. Express your answer to simplest form or lowest term, if needed. Write your answers on your answer sheet.

1) $\frac{1}{8}$ more than $\frac{4}{8}$ is _____.

2) What is the total of $\frac{1}{9}$, and $\frac{1}{3}$?

3) $\frac{3}{7}$ plus $\frac{1}{2}$ equals_____.

4) $\frac{1}{10}$ when added to $\frac{1}{5}$ is _____.

5) What is the sum of $\frac{1}{11}$ and $\frac{2}{3}$?

B. Read and solve the following problems. Show your solutions and express your final answer to simplest form or lowest term. Write it on your answer sheet.

1. Michelle spends her free time in reading short stories. If she spent reading $\frac{2}{6}$ hour on Monday and $\frac{3}{6}$ hour on Tuesday, how many hours did she spent reading in two days?

2. Alain visits his sick friend Carlo. He brought some fruits to him. These are $\frac{1}{4}$ kilogram of grapes and $\frac{3}{5}$ kilogram of guavas. How many kilograms of fruits did he bring in all?

3. Carmelie spent $\frac{3}{5}$ of an hour swimming in the morning and $\frac{5}{15}$ hour swimming in the evening. How many hours did she spend in all?

4. It took Nick two-thirds of an hour to complete his Mathematics homework on Monday, one-fourth of an hour on Tuesday. How many hours did it take him to complete his homework altogether?

5. Justin and his friend ate pizza. Justin ate $\frac{3}{8}$ of the pizza and his friend ate $\frac{2}{8}$ of the pizza. How much pizza did they eat in all?

Answer Key

What I Know	What's In	What's More
1. $\frac{1}{4}$ 6. $\frac{14}{15}$ 2. $\frac{13}{20}$ 7. $\frac{5}{6}$ 3. $\frac{9}{14}$ 8. $\frac{2}{3}$ 4. $\frac{61}{65}$ 9. $\frac{7}{12}$ 5. $\frac{5}{6}$ 10. $\frac{4}{5}$	1. 35 2. 33 3. 21 4. 10 5. 24	1. $\frac{7}{12}$ 2. $\frac{7}{8}$ 3. $\frac{17}{20}$ 4. $\frac{31}{44}$ 5. $\frac{34}{35}$
What I Can Do	**Assessment**	**Additional Activities**
A. 1. $\frac{8}{9}$ 2. $\frac{7}{8}$ 3. $\frac{8}{15}$ B 4. $\frac{5}{7}$ 5. $\frac{9}{10}$	1. $\frac{3}{5}$ 6. $\frac{11}{14}$ 2. $\frac{11}{28}$ 7. $\frac{9}{10}$ 3. $\frac{8}{9}$ 8. $\frac{9}{10}$ 4. $\frac{31}{40}$ 9. $\frac{5}{6}$ 5. $\frac{9}{10}$ 10. $\frac{7}{10}$	A. B. 1. $\frac{5}{8}$ 1. $\frac{5}{6}$ 2. $\frac{4}{9}$ 2. $\frac{17}{20}$ 3. $\frac{13}{14}$ 3. $\frac{14}{15}$ 4. $\frac{3}{10}$ 4. $\frac{11}{12}$ 5. $\frac{25}{33}$ 5. $\frac{5}{8}$

What I Know

Add the following fractions and express your answer to lowest term, if possible. Write your answers on your answer sheet.

1) $\frac{3}{5} + \frac{4}{7} = N$

2) $\frac{8}{10} + \frac{3}{5} = N$

3) $\frac{15}{24} + \frac{12}{24} = N$

4) $\frac{7}{10} + \frac{4}{5} = N$

5) $\frac{1}{2} + \frac{2}{3} = N$

6) $\frac{8}{15} + \frac{11}{15} = N$

7) $\frac{4}{20} + \frac{4}{5} = N$

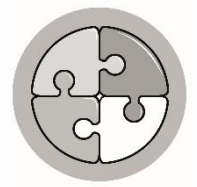
8) $\frac{9}{12} + \frac{4}{12} = N$

9) $\frac{3}{4} + \frac{2}{3} = N$

10) $\frac{4}{6} + \frac{3}{5} = N$

Lesson 2 Adding Simple Fractions with Regrouping in the Sum

You have learned how to add simple fractions without regrouping in the past lesson. Now, you will learn how to add simple fractions and mixed numbers with regrouping in the sum.



What's In

Give the Least Common Denominator (LCD) of the following pairs of dissimilar fractions. Write your answers on your answer sheet.

1) $\frac{1}{3}$ and $\frac{1}{2}$

2) $\frac{1}{8}$ and $\frac{5}{6}$

3) $\frac{7}{8}$ and $\frac{1}{4}$

4) $\frac{2}{3}$ and $\frac{3}{4}$

5) $\frac{2}{5}$ and $\frac{3}{4}$

What's New

The Science Club members spent $\frac{3}{4}$ and $\frac{1}{3}$ hour fixing the bird feeder. How many hours did they spend for these activities?

What is the sum of $\frac{3}{4}$ and $\frac{1}{3}$?

What is It

Find: $\frac{3}{4} + \frac{1}{3} = N$

$\frac{3}{4} = \frac{\square}{12}$ ← LCD

\+

$\frac{1}{3} = \frac{\square}{12}$ ← LCD

(12 ÷ 4) X 3 = 9

(12 ÷ 3) X 1 = 4

Step 1. Find the Least Common Denominator (LCD).

Step 2. Find the missing numerators.

To find the missing numerators, divide the LCD by the denominator of the given fraction. Multiply the quotient by the numerator.

$\frac{3}{4} = \frac{9}{12}$

\+

$\frac{1}{3} = \frac{4}{12}$

$\frac{13}{12}$ } Greater than 1; so, rename

Step 3. Write the equivalent forms. Then, add the numerators.

$\frac{3}{4} = \frac{9}{12}$

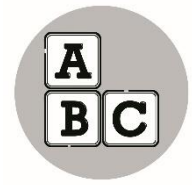
\+

$\frac{1}{3} = \frac{4}{12}$

$\frac{13}{12}$ or $1\frac{1}{12}$ hours

$12\overline{)13}$ → 1, remainder 1 → $1\frac{1}{12}$

Step 4. Rename the fraction.



What's More

Complete each item. Write your answers on your answer sheet.

1) $\frac{7}{8} = \frac{21}{24}$
$+ \quad \frac{2}{3} = \frac{16}{24}$
$\frac{37}{24}$ or _____

2) $\frac{3}{4} = \frac{3}{4}$
$+ \quad \frac{1}{2} = \frac{2}{4}$
$\frac{\square}{4}$ or _____

3) $\frac{5}{9} = \frac{10}{18}$
$+ \quad \frac{1}{2} = \frac{9}{18}$
$\frac{\square}{18}$ or _____

4) $\frac{1}{2} = \frac{3}{6}$
$+ \quad \frac{5}{6} = \frac{5}{6}$
$\frac{\square}{6}$ or _____

5) $\frac{3}{7} = \frac{30}{70}$
$+ \quad \frac{9}{10} = \frac{63}{70}$
$\frac{\square}{70}$ or _____

What I Have Learned

In adding simple fractions with regrouping:

- Find the Least Common Denominator (LCD).
- Rename the dissimilar fractions to their equivalent fractions using the LCD.
- Add the numerators. Then, write the sum over the common denominator.
- If the sum is an improper fraction, rename it as a mixed number.

What I Can Do

A. Add the following and change your answer to the lowest term if needed. Write your answer on your answer sheet.

1) $\begin{array}{r} \frac{7}{10} \\ + \frac{4}{5} \\ \hline \end{array}$

2) $\begin{array}{r} \frac{3}{4} \\ + \frac{5}{6} \\ \hline \end{array}$

3) $\begin{array}{r} \frac{8}{9} \\ + \frac{2}{3} \\ \hline \end{array}$

B. Read and solve the following problems. Show your solution on your answer sheet.

1) Rosemarie worked in her vegetable garden during weekend. If she worked $\frac{4}{5}$ hour on Saturday and $\frac{6}{8}$ hour on Sunday, how many hours did she work in two days?

2) Juliet bought $\frac{3}{4}$ meter of silk cloth and $\frac{5}{8}$ meter of cotton cloth for her daughter's dress. How many meters of cloth did Juliet buy in all?

Assessment

Add the following fractions. Write your answers on your answer sheet.

1) $\frac{6}{10} + \frac{3}{5}$

2) $\frac{4}{7} + \frac{2}{3}$

3) $\frac{5}{9} + \frac{2}{3}$

4) $\frac{3}{4} + \frac{4}{5}$

5) $\frac{1}{2} + \frac{3}{5}$

6) $\frac{4}{7} + \frac{1}{2}$

7) $\frac{3}{5} + \frac{2}{3}$

8) $\frac{7}{8} + \frac{2}{3}$

9) $\frac{5}{6} + \frac{1}{2}$

10) $\frac{7}{10} + \frac{1}{2}$

Additional Activities

A. Read and solve. Express your answer to simplest form or lowest term, if needed. Write your answers on your answer sheet.

1) $\frac{9}{12} + \frac{5}{6}$

2) $\frac{5}{7} + \frac{4}{5}$

3) $\frac{3}{4} + \frac{9}{12}$

4) $\frac{4}{5} + \frac{6}{7}$

5) $\frac{9}{7} + \frac{8}{14}$

B. Read and solve the following problems. Show your solutions and express your final answer to simplest form or lowest term. Write it on your answer sheet.

1) One morning, a restaurant served a total of $\frac{1}{2}$ of a loaf of wheat bread and $\frac{7}{8}$ of a loaf of white bread. How many loaves were served in all?

2) Joey walked $\frac{1}{2}$ kilometer yesterday and $\frac{3}{4}$ of a kilometer today. How many kilometers has John walked?

3) Josephine is preparing for a final exam. She studied $\frac{4}{5}$ of an hour on Friday, $\frac{3}{4}$ of an hour on Saturday, and $\frac{2}{3}$ of an hour on Sunday. How many hours did she study in all?

4) It took Nick two-thirds of an hour to complete his Mathematics homework on Monday, three-fourths of an hour on Tuesday. How many hours did it take him to complete his homework altogether?

5) James spent $\frac{9}{10}$ of an hour biking and $\frac{5}{6}$ of an hour jogging. How much time did James spend in biking and jogging?

Answer Key

What I Know	What's In	What's More
1. $1\frac{6}{35}$ 6. $1\frac{4}{15}$	1. 6	1. $1\frac{13}{24}$
2. $1\frac{2}{5}$ 7. 1	2. 24	2. $1\frac{1}{4}$
3. $1\frac{1}{8}$ 8. $1\frac{1}{12}$	3. 8	3. $1\frac{1}{18}$
4. $1\frac{1}{2}$ 9. $1\frac{5}{12}$	4. 12	4. $1\frac{1}{3}$
5. $1\frac{1}{6}$ 10. $1\frac{4}{15}$	5. 20	5. $1\frac{23}{70}$
What I Can Do	**Assessment**	**Additional Activities**
A.	1. $1\frac{1}{5}$ 6. $1\frac{1}{14}$	A. B.
1. $1\frac{1}{2}$	2. $1\frac{5}{21}$ 7. $1\frac{4}{15}$	1. $1\frac{7}{12}$ 1. $1\frac{3}{8}$
2. $1\frac{7}{12}$	3. $1\frac{2}{9}$ 8. $1\frac{13}{24}$	2. $1\frac{18}{35}$ 2. $1\frac{1}{4}$
3. $1\frac{5}{9}$	4. $1\frac{11}{20}$ 9. $1\frac{1}{3}$	3. $1\frac{1}{2}$ 3. $2\frac{13}{60}$
B.	5. $1\frac{1}{10}$ 10. $1\frac{1}{5}$	4. $1\frac{23}{35}$ 4. $1\frac{5}{12}$
4. $1\frac{11}{20}$		5. $1\frac{6}{7}$ 5. $1\frac{11}{15}$
5. $1\frac{3}{8}$		

What I Know

Find the value of **N**. Solve the following. Write your answers on your answer sheet.

1) $10\frac{3}{5} + \frac{4}{7} = \mathbf{N}$

2) $\frac{8}{10} + 2\frac{3}{5} = \mathbf{N}$

3) $\frac{15}{24} + 5\frac{12}{24} = \mathbf{N}$

4) $7\frac{7}{10} + \frac{4}{5} = \mathbf{N}$

5) $11\frac{1}{2} + \frac{2}{3} = \mathbf{N}$

6) $\frac{8}{15} + 10\frac{11}{15} = \mathbf{N}$

7) $4\frac{4}{20} + \frac{4}{5} = \mathbf{N}$

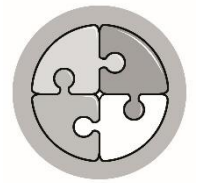
8) $6\frac{9}{12} + \frac{4}{12} = \mathbf{N}$

9) $2\frac{3}{4} + \frac{2}{3} = \mathbf{N}$

10. $5\frac{4}{6} + \frac{3}{5} = \mathbf{N}$

Lesson 3 Adding Simple Fractions and Mixed Numbers With Regrouping in the Sum

You have learned how to add simple fractions with regrouping in the sum in the past lesson. Now, you will learn how to add simple fractions and mixed numbers with regrouping in the sum.



What's In

Give the Least Common Denominator (LCD) of the following pairs of dissimilar fractions. Write your answers on your answer sheet.

1. $\frac{2}{5}$ and $\frac{1}{8}$
2. $\frac{4}{8}$ and $\frac{5}{10}$
3. $\frac{4}{12}$ and $\frac{1}{4}$
4. $\frac{2}{6}$ and $\frac{4}{7}$
5. $\frac{4}{15}$ and $\frac{3}{5}$

What's New

Marie sold $2\frac{2}{5}$ kilograms of avocados while Ann sold $\frac{3}{4}$ kilogram. How many kilograms of avocadoes did the two sell together?

What are we trying to find? *(Answer: Total number of kilograms of avocados sold)*

What is the mathematical sentence? *(Answer:* $2\frac{2}{5} + \frac{3}{4} = N$ *)*

What is It

Find: $2\frac{2}{5} + \frac{3}{4} = N$

$2\frac{2}{5} = 2\frac{\square}{20}$ ← LCD

$+ \quad \frac{3}{4} = \frac{\square}{20}$ ← LCD

(20 ÷ 5) X 2 = 8

(20 ÷ 4) X 3 = 15

Step 1. Write the fractions in one column.

Find the Least Common Denominator (LCD).

Step 2. Find the missing numerators.

To find the missing numerators, divide the LCD by the denominator of the given fraction. Multiply the quotient by the numerator.

$2\frac{2}{5} = 2\frac{8}{20}$

$+ \quad \frac{3}{4} = \frac{15}{20}$

$2\frac{23}{20}$ ← Greater than 1; so, rename.

Step 3. Write the equivalent fractions, then add the similar fractions.

$2\frac{2}{5} = 2\frac{8}{20}$

$+ \quad \frac{3}{4} = \frac{15}{20}$

$2\frac{23}{20}$

$20\overline{)23}$ → 1, remainder 3

$1\frac{3}{20}$

Step 4. Rename the fraction.

$2 + 1\frac{3}{20} = 3\frac{3}{20}$

Step 5. Bring down the whole number and regroup the sum.

$2\frac{2}{5} = 2\frac{8}{20}$

$+ \quad \frac{3}{4} = \frac{15}{20}$

$2\frac{23}{20}$ or $\mathbf{3\frac{3}{20}}$ kg of avocados

Here are some examples for you to study.

A. $3\frac{3}{4} = 3\frac{9}{12}$

$+ \quad \frac{2}{3} = \frac{8}{12}$

$3\frac{17}{12}$ or $4\frac{5}{12}$

B. $6\frac{2}{3} = 6\frac{16}{24}$

$+ \quad \frac{5}{8} = \frac{15}{24}$

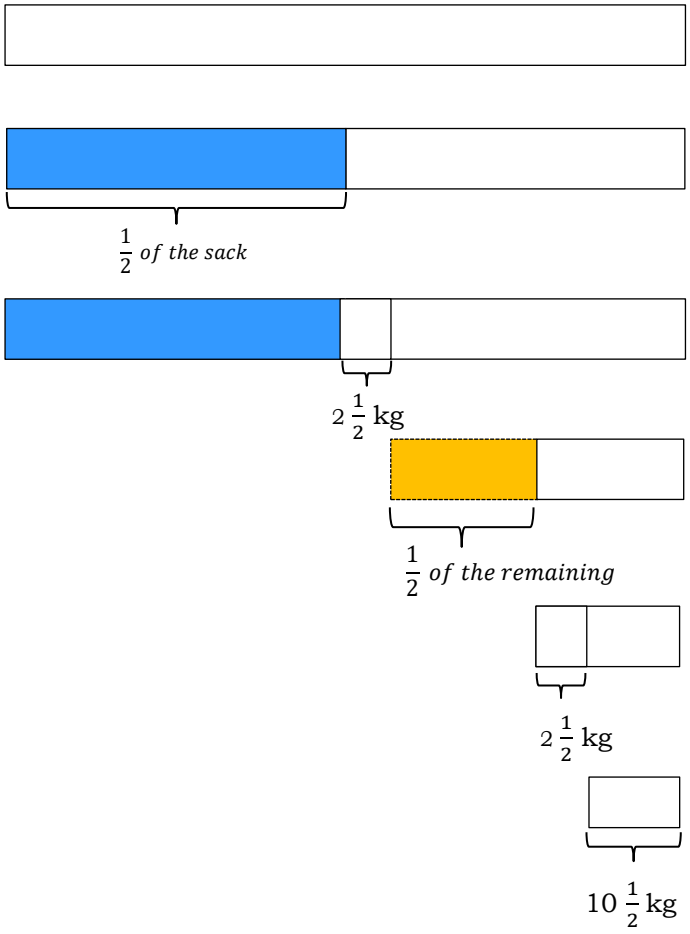
$6\frac{31}{24}$ or $7\frac{7}{24}$

Now that you are already familiar with the steps on how to add fractions, you can move on studying the word problem below.

A special sack of rice is available at Sam's store. Sam was able to sell $\frac{1}{2}$ of the sack plus $2\frac{1}{2}$ kilograms on Monday. On Tuesday, he sold $\frac{1}{2}$ of the remaining rice from a sack plus $2\frac{1}{2}$ kg. Then, sold the remaining $10\frac{1}{2}$ kg on Wednesday. How many kilograms are there in a special sack of rice?

To solve the problem, you may draw a diagram or use block model to see the relationships between the components in a problem. Illustrations or drawings can help to visualize the problem situations.

How to illustrate using Block Model?



Step 1. Draw a box/block to represent the total kg of rice in a special sack.

Step 2. Divide the block into 2 parts to show $\frac{1}{2}$ sack.

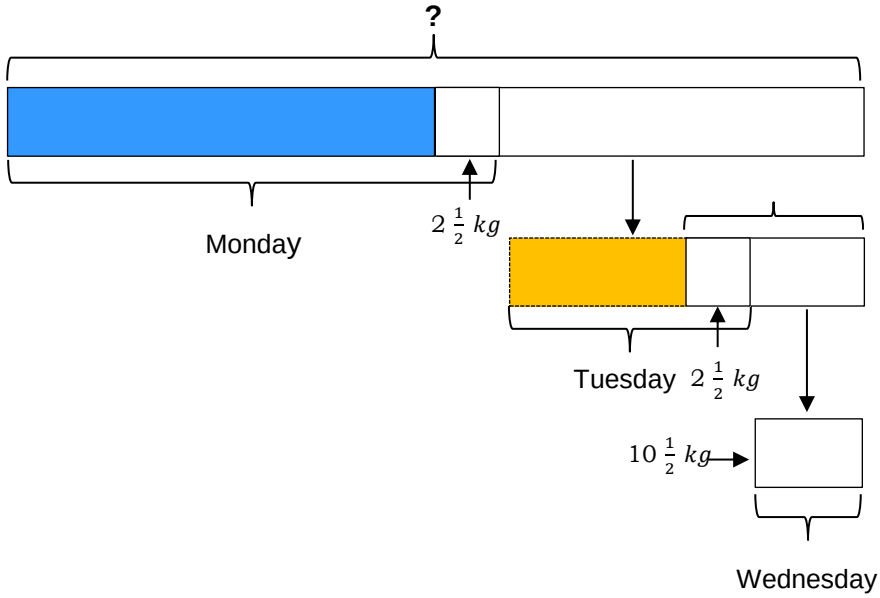
Step 3. Cut a portion of the remaining block to show the additional $2\frac{1}{2}$ kg.

Step 4. Make a model of the remaining block then divide it by 2 to show $\frac{1}{2}$ of the remaining block.

Step 5. Cut a portion of the remaining block to show additional $2\frac{1}{2}$ kg sold on Tuesday.

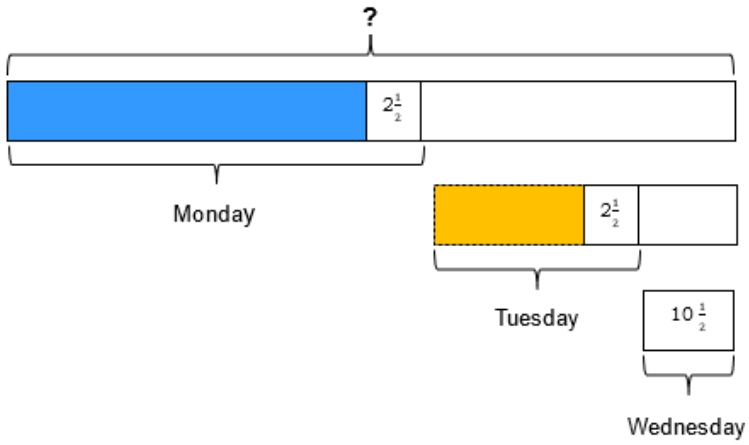
Step 6. Make a model of the remaining block to represent the remaining $10\frac{1}{2}$ kg which was sold on Wednesday.

Thus, your model would like this.

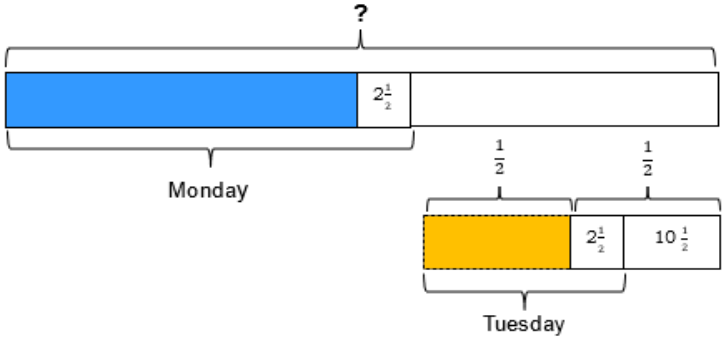


Solving Process:

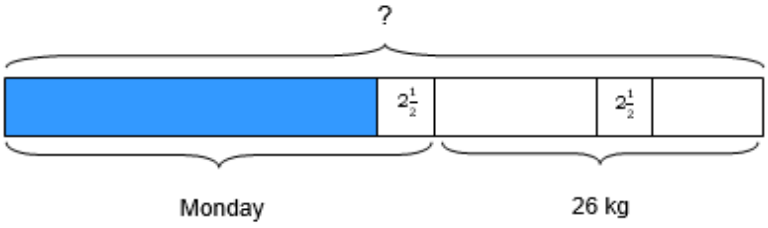
Step 1. The smallest block at the bottom of the illustration which represents the portion sold on Wednesday is equal to the block just above it. So, it is $10\frac{1}{2}$ kg also.



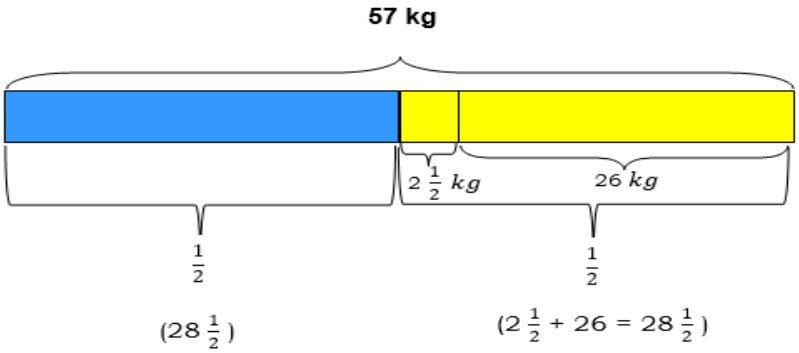
Step 2. The combined portion of $10\frac{1}{2}$ and $2\frac{1}{2}$ is half of the illustration in the second block.



Step 3. The second block is equal to the unshaded portion in your entire block after the portion with label $2\frac{1}{2}$. So it is also equal to 26 kg.



Step 4. The combined portion of 26 kg and $2\frac{1}{2}$ kg is half of the illustration in the entire block. The illustration below shows that the yellow colored block is $\frac{1}{2}$ of the entire block.



$26 + 2\frac{1}{2} = 28\frac{1}{2}$ is half of the entire block illustration. So, the entire block $28\frac{1}{2} + 28\frac{1}{2}$ is 57 kg.

Therefore, the special sack of rice is 57 kg.

What's More

A. Complete each item. Write your answers on your answer sheet.

1) $2\frac{5}{6} = 2\frac{5}{6}$

$+ \quad \frac{1}{3} = \frac{2}{6}$

$2\frac{7}{6}$ or ____

2) $4\frac{5}{9} = 4\frac{5}{9}$

$+ \quad \frac{2}{3} = \frac{6}{9}$

$4\frac{11}{9}$ or ____

3) $7\frac{5}{10} = 7\frac{10}{20}$

$+ \quad \frac{3}{4} = \frac{15}{20}$

$7\frac{25}{20}$ or ____

4) $6\frac{5}{8} = 6\frac{25}{40}$

$+ \quad \frac{7}{10} = \frac{28}{40}$

$6\frac{53}{40}$ or ____

5) $4\frac{8}{9} = 4\frac{16}{18}$

$+ \quad \frac{5}{6} = \frac{15}{18}$

$4\frac{31}{18}$ or ____

B. Read and solve the following word problem. Show your solution on your answer sheet.

Mrs. Golez is selling calamansi fruits. She was able to sell $\frac{1}{2}$ of the crate and $3\frac{1}{2}$ kg on Wednesday. On Thursday, she sold $\frac{1}{2}$ of the remaining calamansi fruits from the crate and $7\frac{1}{2}$ kg. She then sold the remaining $8\frac{1}{4}$ kg on Friday. How many kilograms of calamansi fruits are there in the crate?

What I Have Learned

In adding fractions and mixed numbers with regrouping:

- Write the fractions in one column. Then, find the Least Common Denominator (LCD).
- Rename the dissimilar fractions to their equivalent fractions using the LCD.
- Add the numerators. Then, write the sum over the common denominator.
- If the fractional part of the sum is improper, rename it to a mixed number.
- Regroup the sum.
- Express the sum in simplest form or lowest term, if needed.

What I Can Do

A. Find the sum. Copy and write your answers on your answer sheet.

1) $7\frac{5}{10} + \frac{4}{5}$

2) $20\frac{3}{5} + \frac{3}{4}$

3) $5\frac{7}{12} + \frac{3}{4}$

B. Read and solve the following word problems. Show your solution on your answer sheet.

1. The Santos family visited three places during their family trip. They stayed $1\frac{1}{6}$ hours at Dela Rosa's Dairy Farm, $\frac{4}{6}$ hour at Eden's Garden and $3\frac{3}{4}$ hours at Jasmine's Beach Resort. How long did they take their family trip?

2. Annie is selling cashew nuts. She was able to sell $\frac{1}{2}$ of the box plus $1\frac{1}{2}$ kg on Sunday. On Monday, she sold $\frac{1}{2}$ of the remaining cashew nuts from the box plus $1\frac{1}{2}$ kg. Then, sold the remaining $5\frac{1}{4}$ kg on Tuesday. How many kilograms of cashew nuts are there in the box?

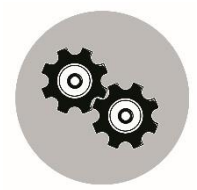
Assessment

A. Add the following fractions and mixed numbers. Write you answers on your answer sheet.

1. $1\frac{6}{10} + \frac{3}{5} =$
2. $10\frac{4}{7} + \frac{2}{3} =$
3. $\frac{5}{9} + 3\frac{2}{3} =$
4. $20\frac{3}{4} + \frac{4}{5} =$
5. $\frac{1}{2} + 8\frac{3}{5} =$
6. $7\frac{4}{7} + \frac{1}{2} =$
7. $\frac{4}{5} + 3\frac{2}{3} =$
8. $23\frac{7}{8} + \frac{2}{3} =$
9. $\frac{6}{8} + 2\frac{1}{2} =$
10. $4\frac{6}{10} + \frac{1}{2} =$

B. Read and solve the following word problems. Show your solution on your answer sheet.

Ena and Fretz are baking customized cakes. They placed the cake flour in a large cloth bag. They were able to use $\frac{1}{2}$ bag of flour on Wednesday. They used $\frac{1}{2}$ kg of the remaining flour and $2\frac{1}{4}$ kg on Thursday. Then, used the remaining $1\frac{2}{3}$ kg on Friday. How many kilograms of flour are placed in the cloth bag?



Additional Activities

A. Add the following fractions. Write your answers on your answer sheet.

1) $4\frac{8}{9} + \frac{5}{6}$

2) $6\frac{5}{8} + \frac{2}{3}$

3) $12\frac{1}{2} + \frac{8}{9}$

4) $4\frac{8}{9} + \frac{3}{5}$

5) $9\frac{6}{7} + \frac{8}{14}$

B. Read and solve the following problems. Show your solution on your answer sheet.

1. To stay healthy, Christine decided to walk for $1\frac{1}{5}$ kilometers to work, walk $\frac{1}{4}$ kilometer at lunch time, and $\frac{1}{3}$ kilometer after dinner. How many kilometers did Christine walk in all?

2. On her way to school, Gina travels $6\frac{1}{2}$ kilometers by bus and $\frac{3}{4}$ kilometer by tricycle. How far does she travel from her home to school?

3. A dressmaker used $1\frac{1}{10}$ meters of cloth for a pair of pants and $\frac{3}{4}$ meter for skirt. How many meters of cloth were used?

4. In a class of 60 pupils, $\frac{2}{3}$ of them like chocolate as their ice cream flavor. $\frac{3}{4}$ of the class likes ube flavor. What portion of the class like both? How many pupils prefer both chocolate and ube?

5. Rina has a sack of white pebbles to sell. She was able to sell $\frac{1}{4}$ of the sack plus $3\ \frac{1}{5}$ kg to her first buyer. She sold another $\frac{1}{2}$ sack to her second buyer. Then, she sold the remaining $8\ \frac{2}{5}$ kg to the third buyer. How many kilograms of white pebbles are there in the sack?

Answer Key

What I Know	What's In	What's More
1. $11\frac{6}{35}$ 6. $11\frac{4}{15}$ 2. $3\frac{2}{5}$ 7. 5 3. $6\frac{1}{8}$ 8. $7\frac{1}{12}$ 4. $8\frac{1}{2}$ 9. $3\frac{5}{12}$ 5. $12\frac{1}{6}$ 10. $6\frac{4}{15}$	1. 40 2. 40 3. 12 4. 42 5. 15	A. 1. $3\frac{1}{6}$ 2. $5\frac{2}{9}$ 3. $8\frac{1}{4}$ 4. $7\frac{13}{40}$ 5. $5\frac{13}{18}$ B. 70 kg
What I Can Do	**Assessment**	**Additional Activities**
A. 1. $8\frac{3}{10}$ 2. $21\frac{7}{20}$ 3. $6\frac{1}{3}$ B. 1. $5\frac{7}{12}$ 2. 30 kg	A. 1. $2\frac{1}{5}$ 6. $8\frac{1}{14}$ 2. $11\frac{5}{21}$ 7. $4\frac{7}{15}$ 3. $4\frac{2}{9}$ 8. $24\frac{13}{24}$ 4. $21\frac{11}{20}$ 9. $3\frac{1}{4}$ 5. $9\frac{1}{10}$ 10. $5\frac{1}{10}$ B. $15\frac{2}{3}$ kg	A. B. 1. $5\frac{13}{18}$ 1. $1\frac{47}{60}$ 2. $7\frac{7}{24}$ 2. $7\frac{1}{4}$ 3. $13\frac{7}{18}$ 3. $1\frac{17}{20}$ 4. $5\frac{22}{45}$ 4. $\frac{5}{12}$; 25 pupils 5. $10\frac{3}{7}$ 5. $46\frac{2}{5}$ kg

References:

- Most Essential Learning Competencies M6NS-Ia-86
- Soaring 21st Century Mathematics 6, pp. 62-78

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