6

DepED
DEPARTMENT OF EDUCATION

MATHEMATICS

Quarter 1-Module 3, Week 3:

Division of Fractions & Problems Involving Division of Fractions

INTRODUCTION

Dear Teachers and Learners, the writer humbly welcomes you to this **Math 6 First Quarter Self-Learning Module.** This material will guide you in recalling and learning more concepts on dividing fractions and solving word problems which you can use in your day to day activities. May this module bridge the physical spaces between teachers and learners and may this facilitate meaningful learning among learners studying from home.

Each lesson consists of the following parts: **What I Need to Know-** this part contains the learning objectives or the expected outcomes of the lesson; **What I know-** is an assessment of your knowledge on the topic at hand and its related topics; **What's In-** this connects the previous lesson to the new one; **What's New-** this introduces the new lesson through various activities and guide questions which you need to answer; **What is it-** this part contains discussions of the activities and concepts of the current lesson for better understanding; **What's More-** follow-up activities are given to deepen your understanding of the concepts presented and to further master the competencies learned; **What I have Learned**- activities are provided to process the lessons learned. **What I Can Do**- these are activities that showcase your skills and knowledge gained and how you will apply it into real-life situations; **Assessment**- this evaluates your level of mastery in this lesson and **Additional Activities**- this part gives more activities to increase and develop your learning capability.

Here are some few reminders for you to follow in using this learning module:

1. Take your time to read every detail that this module contains.
2. This module contains three lessons of which each lesson is provided with activities/tests that will surely lead you to enjoy learning. Please answer every activity smartly and diligently.
3. Please be reminded to follow the directions and procedures given in every activity so that your experience in using this module will be meaningful and successful.
4. You have to answer all the tests in this module. There are Answer Keys provided for all the tests which can be found at the end of Lesson 3. However, make sure to do the activity first before checking your answers. The goal is to make sure that you work for this material honestly so that your work and effort will be rewarding and learning will possibly take place although you work in this at home.
5. Take note of this very important reminder: **PLEASE DO NOT WRITE ANYTHING ON ANY PART OF THIS MODULE.** Write your answers on your Activity Notebook or on a separate sheet of paper as specified in the direction for every Activity.
6. Finally, submit this module together with the notebook containing your answer as scheduled by your teacher.

Lesson 1 Division Involving Whole Numbers and Simple Fractions

What I Need to Know

After completing this lesson, you are expected to:

a. perform the activities that involve whole numbers and fractions;
b. divide simple fraction by whole number and vice versa and
c. divide simple fraction by another fraction in simple form

What I Know

A. For items 1-7, select the correct answers from the given choices and write the letters of the correct answers in your activity notebook .

1. What is the quotient of $\frac{4}{6}$ and $\frac{2}{9}$?

A. 2 B. 1 C.3 D.4

2. A farmer had $\frac{3}{4}$ bag of fertilizer. He put $\frac{1}{8}$ of the $\frac{3}{4}$ bag of fertilizer in each garden plot. How many garden plots were given fertilizers?

A. 6 B.4 C. 8 D. 2

3. The distance from a place to the school is $\frac{1}{3}$ km. How many trips are needed to cover 5 km?

A. 10 B. 20 C. 15 D. 18

4. Jeanette served 2 whole pizza to her friends. Each visitor was given $\frac{1}{4}$ of the pizza. How many visitors shared the pizza?

A. 5 B. 6 C. 10 D. 8

5. How many sixths are there in $\frac{5}{12}$?

A. $2\frac{1}{2}$ B. $3\frac{1}{2}$ C. $1\frac{1}{2}$ D. $5\frac{1}{2}$

6. What is the quotient when 14 is divided by $\frac{2}{3}$?

A. 21 B.20 C. 23 D. 22

7. How many $\frac{1}{5}$ are there in 20?

A. 90 B. 80 C. 70 D. 100

For items 8-10, write your answers on your quiz notebook.

8. Find the quotient of $13 \div \frac{2}{8}$?

9. Rosa served $\frac{4}{5}$ of a pizza to her visitor. Each visitor was given $1\frac{2}{5}$ of the pizza. How many visitors shared the pizza?

10. When $\frac{6}{9}$ is divided by $\frac{3}{5}$, it equals to what number?

What's In

A. Do the following exercises. Write the product in your activity notebook.

$\frac{1}{4}$ of $\frac{1}{5}$

$\frac{3}{4}$ of $\frac{1}{2}$

$\frac{3}{6} \times \frac{2}{5}$

$\frac{3}{8}$ of $\frac{4}{5}$

$\frac{3}{7} \times \frac{2}{3}$

B. What fraction will you place in the ☐ to satisfy the given equation below? Number 1 is done for you.

1) $\frac{1}{4} x \frac{4}{1} = 1$

2) $\frac{3}{4} \times \square = 1$

3) $\frac{4}{6} \times \square = 1$

4) $5 \times \square = 1$

5) $6 \times \square = 1$

What's New

Take a look at this problem below.

After receiving the Social Amelioration Subsidy from the government, Mang Juan bought 5 kilograms of rice. He wanted to share $\frac{1}{2}$ kg to each of his neighbors who did not receive any subsidy. How many neighbors do you think he has given rice?

What did Mang Juan receive?

What did he do with what he received?

How many neighbors do you think he has given rice?

Represent the 5 kg of rice by block.

What is It

Let us use the blocks below to show how many halves can we make in 5 kilograms.

Now, try to cut the blocks in halves to show how many neighbors did Mang Juan has given rice.

So,

$5 \div \frac{1}{2}$ =_____ There are_____halves in five whole units.

There is also another way of solving this problem.

$5 \div \frac{1}{2}$ = _____

Let us take the reciprocal of $\frac{1}{2}$. The reciprocal of $\frac{1}{2}$ is $\frac{2}{1}$.

The reciprocal is the multiplicative inverse of each other. In other words, simply interchange the numerator and denominator to make it equal to 1.

Multiplying the number and its reciprocal, we have $\frac{1}{2} \times \frac{2}{1} = 1$. *So,* $\frac{1}{2}$ *and* $\frac{2}{1}$ *are reciprocals or multiplicative inverse of each other.*

Let us now solve the equation:

$5 \div \frac{1}{2}$ = _____

$\frac{5}{1} \div \frac{1}{2} = \frac{5}{1} \times \frac{2}{1}$ Multiply the dividend by the reciprocal of the divisor.

$= \frac{5 \times 2}{1 \times 1}$ Multiply the numerators and then the denominators.

$= \frac{10}{1} = 10$ There are 10 halves in 5 kilograms.

So, there are 10 neighbors Mang Juan has given rice.

Let's Be Informed:

To divide fractions, rewrite the division as a related multiplication in which you multiply the dividend by the reciprocal of the divisor.

Example: Divide: $\frac{3}{7} \div \frac{3}{5} =$

$\frac{3}{7} \div \frac{3}{5} = \frac{3}{7} \times \frac{5}{3}$ Multiply the dividend by the reciprocal of the divisor.

$= \frac{3x5}{7x3}$ Multiply the numerators and the denominators.

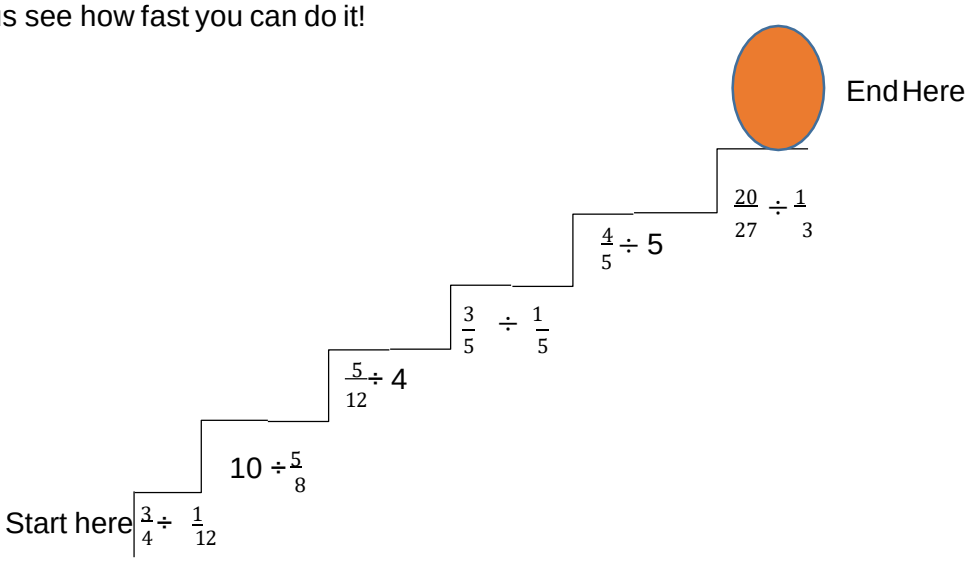
$= \frac{15}{21} \div \frac{3}{3}$ Divide the numerator and the denominator by the GCF

$= \frac{5}{7}$

Answer: $\frac{5}{7}$

What's More

Climb the ladder as fast as you can to get the surprise egg on top. Write the time you started on your activity notebook and the time you reached the top. To climb each step, answer each mathematical sentence and write them down in your notebook.
Start now, let us see how fast you can do it!



What I Have Learned

How do you divide simple fractions by a whole number and simple fractions?

To divide fractions, first I am going to rewrite the division operations as related_____in which I multiply the dividend by the_____of the divisor. Next, I will multiply the _____and then the _____. Finally, I will_____the answers in lowest terms, if possible.

What I Can Do

A. Find the answers to the following. Write the letter that corresponds to the correct answer in the box. Make sure your answer is in its simplest form.

A. $\frac{3}{6} \div \frac{1}{2} =$

S. $\frac{12}{15} \div \frac{1}{4} =$

N. $2 \div \frac{2}{3} =$

I. $\frac{4}{7} \div \frac{2}{3} =$

T. $\frac{15}{18} \div \frac{2}{6} =$

M. $1 \div \frac{2}{3} =$

V. $\frac{15}{18} \div 3 =$

Question: What helps a body build resistance and regulate body processes?

$\frac{5}{18}$	$\frac{6}{7}$	$2\frac{1}{2}$	1	$1\frac{1}{2}$	$\frac{6}{7}$	3	$3\frac{1}{5}$

B. You also do the game quiz in DepEd Commons using the link below:
https://quizizz.com/join/quiz/58499c957e50891538f57764/start

Assessment

A. For items 1-7, select the correct answers from the given choices and write the letters of the correct answers in your activity notebook.

1. Eiko bought $\frac{4}{5}$ of a cake to school. She divided it equally and shared all of it to her 3 friends. How much cake did each friend receive?

   A. $\frac{4}{15}$ B. $\frac{8}{15}$ C. $\frac{7}{15}$ D. $\frac{9}{15}$

2. Jeanette served $\frac{3}{4}$ of a pizza to her friends. Each visitor was given $\frac{1}{4}$ of the pizza. How many visitors shared the pizza?

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

3. What is the quotient of $\frac{4}{6}$ and $\frac{2}{9}$?

   A. 2 B. 1 C.3 D.4

4. If you divide $\frac{3}{5}$ by 3 times, what is the answer?

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

5. Nick and his father can repair one desk in $\frac{1}{3}$ hour. How many desks can they repair in 3 hours?

   A. 10 B. 6 C. 7 D. 9

6. What is the value of N in $6 \div \frac{3}{4} = N$?

   A. 9 B. 7 C.6 D. 8

7. What is $\frac{3}{5}$ divided by $\frac{1}{2}$?

   A. $2\frac{1}{5}$ B. $3\frac{1}{5}$ C. $2\frac{1}{5}$ D. $1\frac{1}{5}$

B. For items 8-10, answer the questions directly in your quiz notebook.

8. Lucy equally poured $\frac{4}{5}$ liter of lemonade into 6 cups. How much lemonade did each cup have? _____

9. What is the quotient when $\frac{12}{15}$ is divided by $\frac{2}{3}$? _____

10. Find the quotient of 16 and $\frac{4}{9}$. _____

Additional Activities

Solve the following problems in your activity notebook. Show its solution. This serves as your performance tasks.

Task 1: Martha found $\frac{4}{5}$ of a whole buko pie in the refrigerator. She cut it into equal slices. Each slice was $\frac{1}{10}$ of the whole buko pie. How many slices did Martha cut the buko pie into?

If you have this buko pie, with whom do you want to share it? Why?

Task 2: Sita is making sandwiches for a picnic with her friends at the park. She uses $\frac{1}{9}$ m of a stick of cheese for each sandwich. If she has 3 sticks of cheese, how many sandwiches could she make?

Lesson 2 Division of Fractions in Simple and Mixed Forms

What I Need to Know

After completing this lesson, you are expected to:

a. divide fractions in simple and mixed forms by simple fraction and mixed forms and
b. illustrate division of fractions in simple and mixed forms by simple fraction and mixed forms

What I Know

For items 1 to 7, select the correct answers from the given choices and write the letters of the correct answers in your activity notebook.

1. Find the quotient of $5\frac{1}{2}$ and $\frac{3}{4}$.

A. $7\frac{1}{3}$ B. $7\frac{1}{2}$ C. $8\frac{1}{3}$ D. $8\frac{1}{2}$

2. Divide $4\frac{1}{2}$ by $\frac{2}{3}$.

A. $5\frac{3}{5}$ B. $5\frac{3}{4}$ C. $6\frac{3}{5}$ D. $6\frac{3}{4}$

3. If $2\frac{1}{4}$ is divided by $\frac{3}{4}$, what is the quotient?

A. 1 B. 2 C. 3 D. 4

4. How many $1\frac{1}{4}$ are there in 9?

A. $8\frac{1}{4}$ B. $7\frac{2}{5}$ C. $7\frac{1}{5}$ D. $8\frac{1}{5}$

5. If you divide 15 by $2\frac{1}{2}$, what is the quotient?

A. 6 B. 9 C. 7 D. 10

6. What is the quotient of $4\frac{2}{5} \div 1\frac{2}{6}$?

A. $4\frac{3}{10}$ B. $3\frac{3}{10}$ C. $2\frac{3}{10}$ D. $1\frac{3}{10}$

7. A relay race covers $1\frac{1}{2}$ miles, and each runner on a team will run $\frac{1}{4}$ of a mile. How many runners are needed for a team?

A. 5 B. 9 C. 6 D. 8

B. For items 8-10, write your answers directly in your activity notebook.

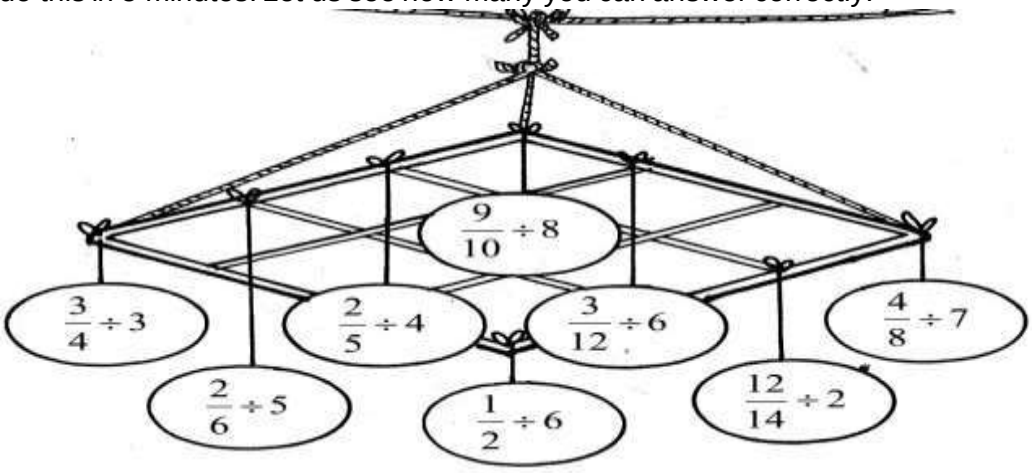
8. How many eighths are there in $1\frac{1}{2}$? _____

9. A hiking trail in a camping site is $6\frac{1}{4}$ kilometers long. If a boy scout hikes at an average speed of $2\frac{1}{2}$ kilometers per hour, how many hours will it take him to reach the end of the trail? _____

10. Find the value of N in $3\frac{1}{4} \div 2\frac{2}{6} = N$. _____

What's In

Everyone in your class is invited to Mario's birthday party. Would you like to join his pabitin contest? If you want to get the surprise prizes, answer each number sentence below. Answer as fast as you can to win the prize. Divide and write your answer in your notebook. You can do this in 5 minutes. Let us see how many you can answer correctly.



What's New

Now, read the problem given below.

Nica has $2\frac{1}{2}$ meters of cloth. She wants to make hand towels for her EPP project. How many hand towels can she make if each hand towel measures $\frac{1}{4}$ meter ?

Analyze the problem.

How much cloth does Nica have?

What is she going to make?

What are given in the problem?

Do you know how to solve this problem? Please try activity 1. Just follow the instructions given.

What is It

a. Activity 1

Let us use the blocks below to show how many fourths we can make in $2\frac{1}{2}$ meters.

Now, try to cut the blocks in fourths to show how many hand towels Nica can make.

How many fourths are there in 1 block? How many fourths are there in 2 blocks?

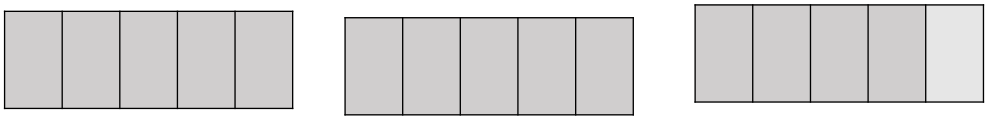
How many fourths are there in $\frac{1}{2}$ of a block?

How many hand towels can Nica make?

Therefore $2\frac{1}{2} \div \frac{1}{4} =$ _____

b. **Activity 2:** Illustrate the division as shown below. (Use strips in illustrating your answer)

$2\frac{4}{5} \div \frac{1}{10} =$



How many tenths are there in 1 block?
How many tenths are there in 2 blocks?

How many tenths are there in $\frac{4}{5}$ of a block?

Therefore, $2\frac{4}{5} \div \frac{1}{10} =$ _____

Dividing mixed numbers:

To divide mixed numbers, convert the mixed numbers to improper fractions. Then, convert the answer to mixed numbers in lowest terms if necessary.

Example 1: Divide: $5\frac{2}{3} \div \frac{3}{4}$

$5\frac{2}{3} \div \frac{3}{4} = \frac{17}{3} \div \frac{3}{4}$ Convert mixed number to improper fraction.

$= \frac{17}{3} \times \frac{4}{3}$ Multiply the dividend by the reciprocal of the divisor.

$= \frac{17 \times 4}{3 \times 3}$ Multiply the numerators and then the denominators

$= \frac{68}{9} = 7\frac{5}{9}$ Convert improper fraction to mixed number

Answer: $7\frac{5}{9}$

Example 2: Divide: $16\frac{3}{4} \div 2\frac{1}{5} =$

$16\frac{3}{4} \div 2\frac{1}{5} = \frac{67}{4} \div \frac{11}{5}$ Convert mixed number into improper fraction.

$= \frac{67}{4} \times \frac{5}{11}$ Multiply the dividend by the reciprocal of the divisor.

$= \frac{67 \times 5}{4 \times 11}$ Multiply the numerators and then the denominators.

$= \frac{335}{44} = 7\frac{27}{44}$ Convert the improper fraction to mixed number

Answer: $7\frac{27}{44}$

What's More

Complete each of the following division sentences. Write your answers in your activity notebook.

1. A string $2\frac{4}{5}$ m long is cut into $\frac{1}{5}$ m pieces. How many pieces can be cut from it?

$2\frac{4}{5} \div \frac{1}{5} =$ ___ ÷ ___ = ___ x ___ = ___ or _____

2. A $10\frac{4}{7}$ kg watermelon is divided into $2\frac{}{5}$ equal parts. How heavy is each part?

$10\frac{4}{7} \div 2\frac{}{5} =$ ___ ÷ ___ = ___ x ___ = ___ or ____

3. Divide $4\frac{1}{8}$ by $1\frac{1}{3}$.

$4\frac{1}{8} \div 1\frac{1}{3} =$ ___ ÷ ___ = ___ x ___ = ___ or _____

4. $5\frac{2}{3} \div 1\frac{3}{5} =$ _____

$5\frac{2}{3} \div 1\frac{3}{5} =$ ___ ÷ ___ = ___ x ___ = ___ or _____

5. $2\frac{1}{3} \div 4\frac{2}{3} =$

$2\frac{1}{3} \div 4\frac{2}{3} =$ ___ ÷ ___ = ___ x ___ = ___ or _____

What I Have Learned

How do we divide fractions by mixed fractions? What are the steps involved?

To divide mixed numbers, first, _____ each mixed number to _____ fraction. Next, rewrite the division operation as a related _____ in which you multiply the dividend by the _____ of the divisor. Then, multiply the _____ and then the _____; and finally, write the answer in _____, if possible.

What I Can Do

A. Match the quotient in Column A with the mixed number sentence in column B. Write only the letter of the correct answer in your activity notebook.

	Column A	Column B
1.	5	a. $5\frac{1}{2} \div \frac{3}{4}$
2.	$12\frac{1}{3}$	b. $2\frac{1}{2} \div 1\frac{1}{4}$
3.	$7\frac{1}{3}$	c. $9\frac{1}{4} \div \frac{3}{4}$
4.	$8\frac{3}{4}$	d. $1\frac{3}{4} \div 1\frac{}{5}$
5.	2	e. $1\frac{2}{3} \div 1\frac{}{3}$
		f. $6\frac{1}{4} \div 3$

B. For additional activity, kindly click the link for the game activity found in DepEd Commons
https://quizizz.com/join/quiz/58499c957e50891538f57764/start

Assessment

A. For Items 1- 7, choose the letter of the correct answer.

1. Bing bought 4 $\frac{1}{2}$kg of chicken. How many recipes can she prepare if she use $1\frac{1}{2}$kg of chicken in every recipe?

   A. 5 B. 3 C. 2 D. 6

2. Daniel has $2\frac{1}{2}$ of a honeydew. He wants to cut it into equal pieces such that each piece is $\frac{1}{8}$ honeydew. How many pieces of honeydew can he get?

   A. 15 B. 19 C. 20 D. 17

3. A dressmaker uses $\frac{1}{2}$ meters of cloth for a blouse. If she has $10\frac{2}{4}$ meters of cloth, how many blouses can she make?

   A. 21 B. 22 C. 23 D. 24

4. How many cups of sinigwelas weighing $\frac{1}{3}$ kilo each cup are in a pile of sinigwelas weighing $8\frac{2}{3}$ kilo?

   A. 25 B. 27 C. 24 D. 26

5. Willie collected $6\frac{2}{3}$ pails of rainwater. How many big containers can she fill if each container contains $2\frac{2}{9}$ of a pail?

A. 3 B. 2 C. 4 D. 5

6. What is N in the equation $7\frac{1}{2} \div 2\frac{1}{4} = N$?

A. $3\frac{1}{3}$ B. $1\frac{1}{3}$ C. $2\frac{1}{3}$ D. $4\frac{1}{3}$

7. What is $3\frac{3}{4}$ divided by $2\frac{1}{4}$?

A. $1\frac{1}{3}$ B. $1\frac{2}{3}$ C. $2\frac{1}{3}$ D. $2\frac{2}{3}$

Direction: For items 8-10, write your answers directly on your quiz notebook.

8. Kate bought $13\frac{2}{5}$ meters of cloth. She cut it into small pieces for her project. If each piece was $1\frac{2}{5}$ meter long, how many pieces did she have?

9. Myra has $12\frac{3}{4}$ m long cloth. How many blouses can she make if each blouse uses $1\frac{1}{2}$ m of cloth?

10. Linda made a trip of $112\frac{1}{2}$ kilometers in $2\frac{1}{2}$ hours. What was her average speed?

Additional Activities

Find the quotient. Write the letter of the correct answer in the box that corresponds to the quotient.

Decode the favorite sports of the children in the boxes below. If you are able to name the sports, you get a perfect score of 17!

A. $4\frac{1}{3} \div 1\frac{3}{8}$

B. $3\frac{1}{2} \div 2\frac{1}{3}$

D. $4\frac{3}{5} \div 2\frac{1}{5}$

I. $6\frac{1}{4} \div 1\frac{1}{8}$

G. $4\frac{1}{2} \div 2\frac{7}{10}$

K. $1\frac{2}{3} \div 1\frac{1}{3}$

M. $2\frac{1}{10} \div 1\frac{1}{5}$

N. $5\frac{1}{4} \div 2\frac{1}{2}$

S. $8\frac{1}{3} \div 1\frac{1}{6}$

W. $3\frac{3}{8} \div 1\frac{1}{4}$

$7\frac{1}{7}$	$2\frac{7}{10}$	$5\frac{5}{9}$	$1\frac{3}{4}$	$1\frac{3}{4}$	$5\frac{5}{9}$	$2\frac{1}{10}$	$1\frac{2}{3}$

$3\frac{5}{33}$	$2\frac{1}{10}$	$2\frac{1}{11}$

$1\frac{1}{2}$	$5\frac{5}{9}$	$1\frac{1}{4}$	$5\frac{5}{9}$	$2\frac{1}{10}$	$1\frac{2}{3}$

Lesson 3

Solving Problems involving Division of Fractions

What I Need to Know

After completing this lesson, you are expected to:

a. solve routine and non-routine problems involving division of fractions and
b. construct a mathematical sentence in solving routine and non-routine problems involving division of fractions.

What I Know

A. For items 1-7, select the correct answer from the given choices and write the letter of the correct answer in your activity notebook.

1. Mrs. Dollete buys 5 $\frac{1}{2}$ kilograms of rice. If she cooks $\frac{1}{4}$ kilogram for every meal, how many meals will it last?

A. 20 B. 21 C. 22 D. 23

2. Marita needs $\frac{2}{3}$ meter of lace for each pillow case she makes. After using 7 1/3 meters, she stopped and sold the pillows that she made at P35.00 each. If all pillow cases were sold, how much did she get?

A. P400.00 B. P385.00 C. P350.00 D. P390.00

3. How many pieces of string $\frac{3}{4}$ m long can be cut from a roll $2\frac{4}{5}$ m?

A. 3 B. $3\frac{11}{15}$ C. 4 D. $\frac{4}{11}$

4. Into how many kitchen recipes will the $6\frac{1}{2}$ kg of meat last, if each recipe needs $\frac{2}{3}$ kg?

A. 8 B. $8\frac{3}{4}$ C. 9 D. $9\frac{3}{4}$

5. Tina has $\frac{3}{4}$ meter of cloth to be sewn into handkerchiefs. How many handkerchiefs can she sew if each uses $\frac{1}{8}$ meter of cloth?

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

6. Mrs. Valdez bought $2\frac{1}{2}$ kilos of grapes for her children. If she gave $\frac{1}{2}$ to each child, how many children were given grapes? What is the mathematical sentence?

A. $2\frac{1}{2} \div \frac{1}{2} = N$ C. $2\frac{1}{2} \div 2\frac{1}{2} = N$

B. $2\frac{1}{2} \times \frac{1}{2} = N$ D. $2\frac{1}{2} - 2\frac{1}{2} = N$

7. How many children were given grapes in question number 6?

A. 5 B. 4 C. 6 D. 8

B. For items 8-10, read the problem below. Answer the questions and write the answers directly on your quiz notebook.

Kate bought $3\frac{2}{5}$ meters of cloth. She cut it into small pieces forher project. If each piece was $\frac{2}{5}$ meter long, how many pieces does she have?

8. What are the given facts in the problem above?
9. What is the mathematical sentence for problem above?
10. Sheila has 4 meters of cloth to be made into handbags. She uses $\frac{1}{2}$ meter for each handbag. If she sells each handbag for Php 50.00, how much money will she earn?

What's In

Answer the number puzzle. You need to answer this in 5 minutes. (Mental Computation)

a		b	c
d.	e.		
	f.	i.	
g.		j.	k.
h.			

Across

b. $\frac{1}{4}$ of n = 6

d. What is $\frac{1}{2}$ of 62?

f. 30 divided by $\frac{1}{3}$ less than 6

h. $160 \div 2\frac{1}{2}$

j. $10\frac{3}{5} \div \frac{1}{5}$

Down

a. $\frac{3}{7}$ of 147

c. How many $\frac{5}{7}$ in 30?

e. $4\frac{1}{2} \div \frac{1}{4}$

g. What is 4 divided by $\frac{1}{4}$?

i. $\frac{1}{2}$ of a rightangle

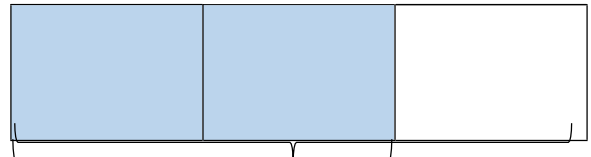
k. How many $\frac{1}{4}$ in 9?

What's New

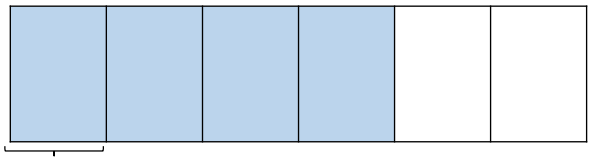
Eric has 2/3 of a pizza. He wants to cut it into equal parts such that each slice is 1/6 of a whole pizza. How many slices of pizza can he get?

How much pizza does Erichave?
How big is each slice of thepizza?
How many slices of pizza can he make?

Visualize the problem:
Suppose thisis the pizza



2/3 of a pizza



1/6 of a pizza

Draw on your own and slice them as needed in the problem.

a. What is asked?
b. Whatfacts are given?
c. What process is needed to solve the problem?

3. Translate the word problem into a number sentence: $\frac{2}{3} \div \frac{1}{6} =$ _____

What is It

Let's analyze and solve the problem together.

A. Understand:

- What is asked? The number of slices can be cut from a $\frac{2}{3}$ pizza
- What are given? There is $\frac{2}{3}$ of a pizza. Each slice is $\frac{1}{6}$ of a whole pizza.

B. Plan:

- What operation to be used? We will use division.
  Divide the length of the pizza by $\frac{1}{6}$.
- What is the number sentence? $\frac{2}{3} \div \frac{1}{6} = N$

C. Carry Out the Plan: Whatis the complete solution? $\frac{2}{3} \div \frac{1}{6} =$

Show the solution.

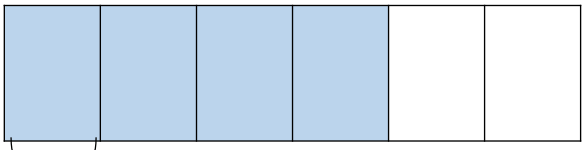
$$\frac{2}{3} \div \frac{1}{6} =$$

$$= \frac{2}{3} \times \frac{6}{1}$$

$$= \frac{2 \times 6}{3 \times 1} = \frac{12}{3} = 4$$

Answer: Eric can make 4 slices of pizza.

D. Check your answer. One way to check if the answer is correct is to go back to the illustration.



$\frac{1}{6}$ of a pizza

$\frac{1}{6}$ x 4 = $\frac{1 \times 4}{6 \times 1}$ = $\frac{4}{6}$

Show in lowest term.

= $\frac{4}{6} \div \frac{2}{2} = \frac{2}{3}$

Let us try another problem:

Mang Pandoy harvested 8 $\frac{1}{2}$ kg of sinigwelas. He placed the sinigwelas into paper bags weighing $\frac{1}{4}$ kg each and sold them to the nearby tiange by P15 each paper bag. How much money did he get?

Solution:

Understand: Asked: _____
Given: _____
Plan the operation: _____
Number Sentence: _____
Carry out the Plan: Solve: 8 $\frac{2}{3} \div \frac{1}{4}$ = n x P15 = N

— x — = _____ paper bag of sinegwelas

_____ paper bag of sinigwelas x P15 each = N

Answer: _____ is the money Mang Andoy gets.

Look back and check:

Let us try this example:

Mrs. Cruz bought a loaf of bread for breakfast. It measures 18 inches long. How many slices can she make if each slice measures 1 $\frac{1}{8}$ inches long?

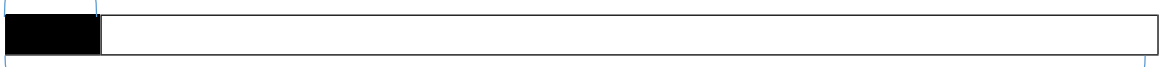
Understand:

What is asked? The number of slices can be cut from a loaf of bread.
What are the given facts? The loaf of bread is 18 inches long.

Each slice of bread is 1 $\frac{1}{8}$ inches long.

Plan: What operation shall we use to solve the problem? Select your own strategy.

1 $\frac{1}{8}$ inches



18 inches

Divide the length of the loaf of bread by 1 $\frac{1}{8}$ inches.

Solve: Show your computation.

Divide $18 \div 1\frac{1}{8} =$

$$18 \div 1\frac{1}{8} = 18 \div \frac{9}{8}$$

$$= \frac{18}{1} \times \frac{8}{9} = \frac{\cancel{18}^{2} \times 8}{1 \times \cancel{9}_{1}}$$

$$= \frac{2 \times 8}{1 \times 1} = \frac{16}{1} = 16$$

Answer: There are 16 slices that can be cut from the loaf of bread.

Check your answer. One way to check if the answer is correct is to go back to the illustration.

$1\frac{1}{8}$ inches

$$1\frac{1}{8} \times 16 = \frac{9}{8} \times \frac{16}{1} = \frac{9 \times 16}{8 \times 1} = \frac{9 \times \cancel{8} \times 2}{\cancel{8} \times 1} = \frac{9 \times 2}{1} = \frac{18}{1} = 18$$

What's More

A. Direction: Read the problem carefully. Complete the ladder below by answering the questions given. Put your answers in your activity notebook.

A team of 15 volunteers will share equally the 3 3/4 kg of rice for lunch. How many kilograms of rice will each volunteer gets?

1. What is asked in the problem?
2. What are the given facts?
3. What operation should be used?
4. What is the mathematical sentence?
5. What is the complete answer?

What I Have Learned

- ***How do we analyze word problems involving division of fraction?***
- ***What steps do we follow in solving the problem involving division of fraction?***

To solve routine problems involving division of fractions and mixed number using appropriate problem solving strategies and tools, first, I have to understand what is _____ and know what are_____. Next, I have to plan by knowing the_____to be used, write the correct number sentence and solve. Finally, I have to reduce the answer to _____.

What I Can Do

A. Solve each problem: Show the solutions in your activity notebook.

1. A garden hose is leaking 1 liter of water every $3\frac{3}{4}$ hour. How many liters of water will it leak in $10\frac{3}{4}$ hours?
2. Elsa is remodeling her bathroom floor. She is going to use tile that is $\frac{4}{9}$ of a foot long. If her bathroom is $7\frac{1}{3}$ feet long, how many tiles will she need to cover the length of the bathroom?

B. You can take the short game online following the link given below.

1. https://quizizz.com/join/quiz/5bbcc85236c0ea001b3c8a4e/start

C. https://quizizz.com/join/quiz/5d82dde0a0d986001bf9e5f6/start

Assessment

A. For items 1-7, select the correct answers from the given choices and write the letters of the correct answers in your activity notebook .

1. Tony can paint a wall in $\frac{2}{3}$ of an hour. How much part of a wall can he paint in five hours? What is asked in the problem?

   A. the total number of hours
   B. the total number of paints
   C. part of the wall painted in 5 hours
   D. the total number of walls

2. In question number 1, what is its mathematical sentence?

   A. $\frac{2}{3} \div 5 = N$
   B. $5 \div \frac{2}{3} = N$
   C. $\frac{5}{1} \times \frac{2}{3} = N$
   D. $\frac{2}{3} \times 5 = N$

3. How much part of the wall in question number 1 can Tony paint?

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

4. How many bags of rice can be made out of 225 kg of rice if each bag contains $\frac{3}{4}$kg of rice?

A. 400 B. 300 C. 200 D. 303

5. An $\frac{8}{10}$m of wood is cut equally into shorter pieces of $\frac{1}{5}$m each. How many shorter pieces will there be?

A. 9 B. 6 C. 5 D. 4

6. If each of 7 cakes is cut into eighths, how many pieces will there be?

A. 56 B. 36 C. 45 D. 46

7. There is $5\frac{4}{5}$ cake on the table. One serving is $\frac{1}{10}$ of a whole cake. How many servings can be made?

A. 55 B. 58 C. 60 D. 65

B. For items 8-10, give the mathematical sentence for the problems below. Write your answers in your activity notebook.

8. How many $\frac{1}{2}$ cup servings are in a package of cheese that contains $5\frac{1}{4}$ cups?

9. A dressmaker has $10\frac{1}{2}$ meters of cloth. She uses $1\frac{1}{2}$ meters of cloth for a blouse. If she sells each blouse for Php 230.00, how much money will she earn?

10. Sam can answer a dozen of Math problems in $\frac{3}{4}$ hour. How many problems can he answer in $4\frac{1}{4}$?

Additional Activities

Do the following tasks in your activity notebook. Show its solution. This serves as your performance tasks.

The Carpenter

Mang Isko is a carpenter. In his work, he must be able to make careful measurements. Oftentimes, he needs to use fractions and mixed numbers. Today, you are going to help Mang Isko do his project.

Task 1: Create your own drawing to represent the board used by Mang Isko. Write your answers in your activity notebook.

Task 2: If Mang Isko will use a board of 9 ft. long and is going to cut it into $\frac{3}{4}$ each section, how many sections will it have?

Answer Key

What I Know

1. C
2. A
3. C
4. D
5. A
6. A
7. D
8. 52
9. 2
10. $1\frac{1}{3}$

What's In

A.

1. $\frac{1}{20}$
2. $\frac{3}{8}$
3. $\frac{5}{7}$
4. $\frac{2}{10}$
5. $\frac{7}{7}$

B.

1. $\frac{4}{4}$
2. $\frac{1}{3}$
3. $\frac{6}{4}$
4. $\frac{1}{5}$
5. $\frac{1}{6}$

What's More

End $2\frac{2}{9}$

$\frac{4}{25}$

3

$\frac{5}{48}$

16

Start 9

What I Have Learned

multiplication
reciprocal
numerator
denominator
rewrite

What I Can Do

VITAMINS

Assessment

1. A 6. D
2. C 7. D
3. C 8. $\frac{2}{15}$
4. A 9. $1\frac{1}{5}$
5. D 10. 36

Additional Activities

1. 8
2. 27

Lesson 1

What I Know

1. A 6. B
2. D 7. C
3. C 8. 12
4. C 9. $2\frac{1}{2}$
5. A 10. $1\frac{11}{28}$

What's In

$\frac{9}{80}$

$\frac{1}{4}$ $\frac{1}{10}$ $\frac{1}{24}$ $\frac{1}{14}$

$\frac{1}{15}$ $\frac{1}{12}$ $\frac{3}{7}$

What's More

1. 14
2. $26\frac{3}{7}$
3. $3\frac{3}{13}$
4. $3\frac{32}{24}$
5. $\frac{1}{2}$

What I Have Learned

Convert
improper
Multiplication
Reciprocal
Numerator
Denominator
Lowest term

What's I Can Do

1.E
2.C
3.A
4.D
5.B

Assessment

1. B 6. A
2. C 7. B
3. A 8. $9\frac{4}{7}$
4. D 9. $8\frac{1}{2}$
5. A 10. 45

Additional Activities

SWIMMING
AND
BIKING

Lesson 2

What I Know

1. C 6. A
2. B 7. A
3. B 8. $3\frac{2}{5}m$ of cloth

Each piece $\frac{2}{5}m$

4. D 9. $3\frac{2}{5} \div \frac{2}{5} = N$
5. D 10. P400

What's In

6	3	■	6
1	■	5	3
■	8	4	■
3	1	■	$2\frac{3}{2}$
6	■	2	4

What's More

1. amount of rice each volunteer get
2. 15 volunteers,

$3\frac{3}{4}$kg of rice

3. division
4. $3\frac{3}{4} \div 15 = N$
5. $\frac{1}{4}$ kg of rice

What I Have Learned

Asked
Given
Operation
Lowest term

What I Can Do

1. $2\frac{13}{15}$
2. $16\frac{1}{2}$

What is It

The amount of money Mang Pandoy get

$8\frac{1}{2}$kg of sinigwelas harvested

$\frac{1}{4}$kg in each bag

P15 each paper bag

Division and multiplication

$8\frac{2}{3} \div \frac{1}{4} \times P15 = N$

P 510 money Mang Andoy get

Assessment

1. C 6. A
2. B 7. B
3. B 8. $10\frac{1}{2}$
4. B 9. P4830
5. D 10. $5\frac{2}{3}$ dozens

Additional Activities

Task 2: 12

Lesson 3