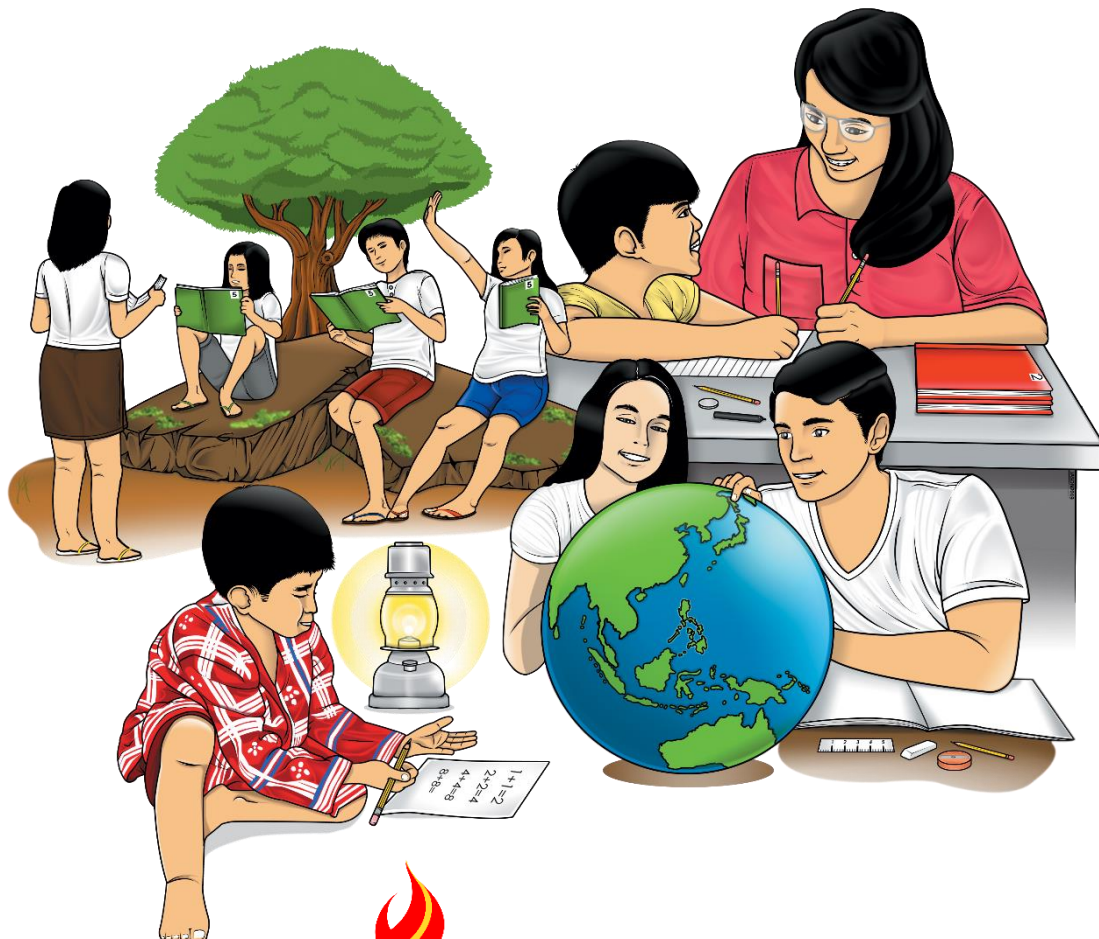


Mathematics

Quarter 2 – Module 11: Dividing Decimals with up to 2 Decimal Places



Mathematics– Grade 5
Alternative Delivery Mode
Quarter 2 – Module 11: Dividing Decimals with up to 2 Decimal Places
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Secretary: Leonor Magtolis Briones
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Development Team of the Module

Writer: Baltazar S. Villaflor

Editors: Maria Niann L. Atis, Priscilla G. Taperla, Ivy Fleda M. Adel,
Carlito Labine, Carlo A. Doinog

Reviewers: Renato S. Cagomoc, Rolando Lacbo, Joshua Sherwin T. Lim, Teodora P. Coreal

Illustrator: Modesto Y. Sapinit

Layout Artist: Razle L. Jabelo

Management Team:

Ramir B. Uytico
Arnulfo R. Balane
Rosemarie M. Guino
Joy B. Bihag
Ryan R. Tiu
Sarah S. Cabaluna
Thelma Cabadsan-Quitalig
Elena S. De Luna
Renato S. Cagomoc
Noel E. Sagayap
Geraldine P. Sumbise
Joshua Sherwin T. Lim

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Mathematics

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests, and read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Good luck and happy learning!



What I Need to Know

Hi, Mathletes!

This module was designed to help you gain understanding on dividing decimals with up to 2 decimal places. Learning to divide decimals is essential, because sometimes in our everyday life we run into situations where you need to divide decimals. Your knowledge on the place value and multiplying decimals which you learned from the previous lessons will surely help you understand the lesson at hand.

After going through this module, you are expected to divide decimals with up to 2 decimal places. A step-by-step process is given in this module to help you divide decimals up to 2 decimal places the easiest way.

Furthermore, this module provides you with sufficient discussion and examples for you to understand dividing decimals with up to 2 decimal places.



What I Know

Directions: Do what is asked of the following questions. Choose the letter of the correct answer.

- 1) What is the value of X if $2.86 \div 0.22 = X$?
A. 13 B. 14 C. 15 D. 16
- 2) Find the quotient of 5.25 when divided by 3.5.
A. 1.5 B. 1.75 C. 4.7 D. 5.2
- 3) If you divide 1.64 by 0.04, what is the answer?
A. 65 B. 53 C. 42 D. 41
- 4) What is the quotient if you divide 1.20 by 0.3?
A. 6 B. 5 C. 4 D. 3
- 5) Solve for N in the equation $1.86 \div 0.06 = N$.
A. 25 B. 31 C. 33 D. 45
- 6) When dividing decimals, if the divisor and dividend have 2 decimal places, we need to multiply them both by what number?
A. 100 B. 201 C. 310 D. 432

- 7) To divide a decimal by another decimal, we move the decimal point in the divisor to the _____ until it is a whole number.
A. right B. left C. top D. leave it as it is
- 8) How many 0.31 cm are there in 96.1 cm?
A. 100 B. 201 C. 310 D. 432
- 9) When dividing decimals and checking if the answer is correct, we multiply the divisor by the _____.
A. quotient B. multiplicand C. dividend D. subtrahend
- 10) If the divisor is 0.08 in an equation, how many number of places do we need to move the decimal point to make it a whole number?
A. 1 B. 2 C. 4 D. 5

Lesson

1

Dividing Decimals with up to 2 Decimal Places

In order to divide decimals with up to 2 decimal places, you need to master the skills on basic multiplication and division as much as with multiplying and dividing decimals by whole number and by decimals. All of these will help you gain understanding and answer all the activities in this lesson with ease. So, let's get started.



What's In

In the previous module, you learned the concept of **Dividing a Decimal by a Whole Number**. Let's check if you can still recall.

In dividing decimals by whole number, we follow these steps:

- Place the decimal point in the quotient directly above the decimal point in the dividend.
- Divide as in the whole number
- Insert zeroes to the dividend when needed.

So, applying the steps: Find the quotient of the following. Number 1 is done for you.

1) $56.75 \div 5 =$

2) $34.74 \div 6 =$

3) $6.72 \div 8 =$

Solution:

$$\begin{array}{r} 11.35 \\ 5 \overline{) 56.75} \\ \underline{5} \\ 06 \\ \underline{-5} \\ 17 \\ \underline{-15} \\ 25 \\ \underline{25} \\ 0 \end{array}$$

4) $16.40 \div 8 =$

5) $38.4 \div 12 =$



What's New

From the previous lessons, you were taught on how to divide decimals by whole numbers. In this lesson, we will deal with division of decimals up to 2 decimal places. There is a correct way to multiply and divide whole numbers, just as there is a correct way to multiply and divide decimals.

Consider the word problem below.

Since the community quarantine started, Jenny has been making personalized washable face masks for all her family members to save them from buying the disposable ones. Now, she is planning to give some to her less privileged neighbors, too. To do that, Jenny needs to buy an additional 3.75 meter of black garter, which she will cut into 0.15-meter strips to complete her sewn face masks. How many strips will she make?



What Is It

When dividing decimals with up to 2 decimal places,

- 1) first multiply both the divisor and the dividend by 100,
- 2) once the divisor and the dividend have been changed to a whole number,
- 3) divide the decimals as you do with whole numbers.

Please note:

In the general rule, to divide decimal numbers we multiply the divisor by as many 10's as necessary until we get a whole number, especially if the divisor and dividend has different number of decimal places. Just remember to multiply the dividend as well by the same number of 10's as the divisor. Thus, as discussed in this lesson it is not always the same case to all given decimals to be divided. The number of 10's will depend on the number of place or places of the divisor then the dividend will just follow.

Let us go over with the word problem presented in the previous part, following these steps below:

Step 1: Multiply the divisor by 100 to make it a whole number.

$$0.15 \times 100 = 15$$

Multiply the dividend by 100 also,

$$3.75 \times 100 = 375$$

Step 2: Continue to divide until the difference is equal to zero.

$$\begin{array}{r} 25 \\ 15 \overline{) 375} \\ \underline{- 30} \\ 75 \\ \underline{- 75} \\ 0 \end{array}$$

Step 3: Check: Multiply the quotient and the divisor, the answer must be equal to the dividend.

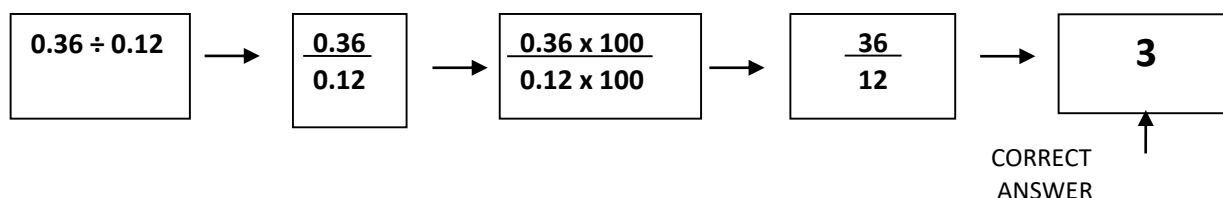
$$15 \times 25 = 375$$

Therefore, the answer is **25** strips.

Activity 1:

Divide 0.36 by 0.12

Study the flow chart below showing the sequential steps in dividing a decimal by a decimal.



How about if the divisor has only 1 decimal place and the dividend has 2 decimal places. How will you divide them? Follow and understand the steps below shown in the activity 2.

Activity 2:

Divide 4.25 by 0.5

Note: The divisor is 0.5. To make it a whole number, we will multiply both the dividend and the divisor by 10.

$$\text{Step 1: } \frac{4.25 \times 10}{0.5 \times 10} = \frac{42.5}{5}$$

Step 2: Then we divide just like dividing whole numbers.

$$\begin{array}{r} 8.5 \\ 5 \overline{)42.5} \\ \underline{-40} \\ 25 \\ \underline{-25} \\ 0 \end{array}$$

Step 3: Now put the decimal point in the answer directly above where the dividend's decimal point is placed after it was multiplied by 10:

$$5 \overline{)42.5}$$

Thus, the answer is **8.5**

Another easy trick/way to solve for the answer:

Step 1: Move the decimal point in the divisor to the right until it is a whole number.

divisor is 0. 5. $\longrightarrow$ becomes 5

Step 2: Move the decimal point in the dividend to the right by the same number of places as the decimal point was moved to make the divisor a whole number.

dividend is 4. 2. 5 $\longrightarrow$ 42.5

Note: We just shift the decimal point one space for both.

Step 3: Then divide the new dividend by the new divisor. Divide just like dividing whole numbers.

$$\begin{array}{r} 8.5 \\ 5 \overline{)42.5} \\ \underline{-40} \\ 25 \\ \underline{-25} \\ 0 \end{array}$$

Thus, the answer is **8.5**

Example 3. Divide 3.84 by 0.6

Step 1: Move the decimal point in the divisor to the right until it is a whole number.

divisor is 0. 6. $\longrightarrow$ becomes 6

Step 2: Move the decimal point in the dividend to the right by the same number of places as the decimal point was moved to make the divisor a whole number.

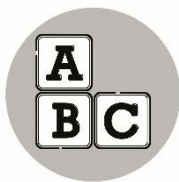
dividend is 3. 8. 4 $\longrightarrow$ 38.4

Note: We just shift the decimal point one space for both.

Step 3: Then divide the new dividend by the new divisor. Divide just like dividing whole numbers. Remember to put the decimal point above in lined with the decimal point in the dividend.

$$\begin{array}{r} 6.4 \\ 6 \overline{) 38.4} \\ \underline{- 36} \\ 24 \\ \underline{- 24} \\ 0 \end{array}$$

Thus, the answer is **6.4**



What's More

The following activities will require you to have an extra sheet of paper for your final answers and solutions. Answer each diligently.

Independent Activity 1

A. Find the quotient. Choose the letter of the correct answer.

- | | | | | |
|------------------------|------|------|------|------|
| 1.) $0.24 \div 0.06 =$ | A. 3 | B. 4 | C. 5 | D. 8 |
| 2.) $0.56 \div 0.08 =$ | A. 7 | B. 5 | C. 4 | D. 3 |
| 3.) $0.88 \div 0.11 =$ | A. 9 | B. 8 | C. 7 | D. 4 |

B. Observe the highlighted missing parts on the solution. Supply the correct information according to the process.

4.) $4.55 \div 0.05 =$

$$\begin{array}{r} \square \\ 5 \overline{) 455} \\ \underline{- 45} \\ 5 \\ \underline{} \\ 0 \end{array}$$

- A. 99 & 0 B. 91 & 0 C. 81 & 4 D. 75 & 3

- 5.) In the equation $3.45 \div 0.05 = \underline{\hspace{2cm}}$, to what number do we multiply the divisor and dividend to, to get the whole numbers?

$$\frac{3.45 \times \square}{0.05 \times \square} = \frac{345}{5}$$

- A. 1 B. 10 C. 100 D. 1000

Independent Activity 2

Directions: Choose the correct letter that corresponds to your answer.

- 1) Which do you think is not correct in the expression below?

$$\begin{array}{r} 41 \\ 0.04 \overline{) 1.64} \\ \underline{-16} \\ 4 \\ \underline{4} \\ 0 \end{array}$$

- A. 0.04 only C. both the divisor and dividend
B. 1.64 only D. the quotient
- 2) After getting the whole numbers of both the dividend and divisor of the given decimals, what do we do next?

$$\frac{0.66 \times 100}{0.03 \times 100} = \frac{66}{3}$$

- A. Move the decimal point in the divisor to the right until it is a whole number.
B. Divide the new dividend by the new divisor just like dividing whole numbers.
C. Multiply the divisor by 100 to make it a whole number.
D. Put the decimal point in the answer directly above the dividend.
- 3) To check if the quotient in this expression is correct, what do we do?

$$\begin{array}{r} 66 \\ 2 \overline{) 132} \\ \underline{12} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

- A. Multiply the quotient and the divisor, the answer must be equal to the dividend.
B. Move the decimal point in the divisor to the right until it is a whole number.
C. Put the decimal point in the answer directly above the dividend.

- 4) If fifteen hundredths is divided by three hundredths, the quotient is _____.
 A. 5 B. 50 C. 500 D. 5000
- 5) What is the result when we divide 0.86 by 0.02?
 A. 31 B. 43 C. 57 D. 66

Independent Activity 3

Directions: Find the missing quotient by matching the equations in Column A with the choices in Column B. Have a separate piece of paper for your solutions.

COLUMN A	COLUMN B
1) $104.88 \div 0.38$	A.) ₱280
2) $243.75 \div 0.75$	B.) 155
3) $113.40 \div 0.18$	C.) 630
4) How many 9.5 are there in 1 472.50?	D.) 325
5) ₱350 worth of gasoline divided by ₱1.25	E.) 276



What I Have Learned

How do we divide a decimal with up to 2 decimal places?

- ✓ First, make both the divisor and dividend a whole number by multiplying it by 100 or by simply moving the decimal points to 2 decimal places to the right.
- ✓ Then, divide just like how to divide whole numbers.
- ✓ Place the decimal point in the quotient directly above the decimal point in the dividend.

But if the divisor has only 1 decimal place,

- ✓ First, multiply both the divisor and dividend by 10 or simply move the decimal points to 1 decimal place to the right.
- ✓ Then, divide just like dividing whole numbers.
- ✓ Place the decimal point in the quotient directly above the decimal point in the dividend.

State your observations in the process of dividing decimals with up to 2 decimal places. Are there any differences and similarities with dividing decimals having 1 decimal place only? What are those?



What I Can Do

Directions: Solve the following word problems. Write your answers in complete solution.

1) A store owner has 7.11 lbs. of powdered milk. If she puts the candies into 9 jars, how much candies will each jar contain?

2) What is the average speed in miles per hour of a car that travels 956.4 miles in 15.9 hours? Round off your answer to the nearest tenth.

3) Larry worked 15 days for a total of 116.25 hours. How many hours did he work per day on average?

Have you already mastered the process in dividing decimals with up to 2 decimal places? Let's try to check what have you gained so far. Have an extra sheet of paper for your solutions and final answers. Be honest, refrain from checking the answers key while answering to assess your self.



Assessment

Directions: Perform as directed. Write the letter of the correct answer in your answer sheet.

- 1.) Solve for Y in the equation $12.78 \div 0.06 = Y$.
A. 213 B. 230 C. 413 D. 325
- 2.) Find the quotient of $2.35 \div 0.05$.
A. 42 B. 44 C. 45 D. 47
- 3.) If you divide 3.45 by 0.15, what is the answer?
A. 21 B. 22 C. 23 D. 25
- 4.) What is the quotient if you divide 630.21 by 0.07?
A. 9,005 B. 9,003 C. 8,003 D. 7,005
- 5.) How many 0.29 m pieces are there in a 9.28 meter of cloth?
A. 21 B. 23 C. 31 D. 32
- 6.) Carla spends ₱104.50 in 5.5 days. How much is her average daily expenses?
A. 16 B. 17 C. 18 D. 19
- 7.) A piece of cloth, 5.88 m, long is to be cut into smaller pieces of 0.84 m in length. How many pieces will there be?
A. 4 B. 5 C. 6 D. 7
- 8.) If 3.5 kg of mango cost ₱344.75, how much does a kilogram cost?
A. 99.8 B. 98.5 C. 87.5 D. 68.2
- 9.) Randy paid ₱137.35 for 13.40 L of diesel fuel. How much does a liter cost?
A. 10.25 B. 10.50 C. 20.50 D. 25.43
- 10.) A bus travelled a distance of 344.25 km in 4.25 hours. What is the average speed of the bus?
A. 67 B. 75 C. 81 D. 8



Additional Activities

Directions: Find the quotient. Choose the letter of the correct answer and each letter has a corresponding word(s) or phrase(s). If you will get everything right you will reveal the message.

1.) $37.20 \div 0.31 = ?$

- A. 105
- B. 120
- C. 52
- D. 75.8

Mathematics

Dividing decimals

My favorite

I love

2.) $73.14 \div 0.23 = ?$

- A. 318
- B. 422
- C. 534
- D. 356

is very easy

subject is

to solve problems

numbers

addition and

English

and

multiplying

3.) $0.48 \div 0.08 = ?$

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

letter of correct

addition

fun to

decimal places

up to

learn with

one decimal place

the quotient.

4.) $4.75 \div 0.05 = ?$

- A. 90
- B. 19
- C. 95
- D. 82

5.) $9.28 \div 0.29 = ?$

- A. 96
- B. 32
- C. 66
- D. 45

Message: _____.



Answer Key

What's More Independent Activity 1 1. B 2. A 3. B 4. B 5. C Independent Activity 2 1. C 2. B 3. A 4. A 5. B Independent Activity 3 1. E 2. D 3. C 4. B 5. A	Assessment 1. A 2. D 3. C 4. B 5. D 6. D 7. D 8. B 9. A 10. C	What I Know 1. A 2. A 3. D 4. C 5. B 6. A 7. A 8. C 9. A 10. B
What I Have Learned Varied answers here from the learners	What I Can Do 1. 0.79 2. 60.15 3. 7.75	Additional Activities 1. B 2. A 3. C 4. C 5. B

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For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex, Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph