Helping With Math

Dividing Whole Numbers by Fractions

GRADE 5

When dividing a whole number by a fraction, we are calculating how many groups of the fraction we can fit in the whole. The usual way of dividing a whole number by a fraction is to multiply the whole number by the reciprocal of the fraction.

Karen bought 3 sacks of flour. If this is ⅖ of the number that she needs to buy, how many sacks of flour does she need?

Given: $3 \div \frac{2}{5} = ???$

STEPS IN DIVIDING FRACTION BY WHOLE NUMBER

Karen bought 3 sacks of flour. If this is ⅖ of the number that she needs to buy, how many sacks of flour does she need?

Given: $3 \div \frac{2}{5}$

Step 1: Get the reciprocal of the fraction. Just interchange the numbers in the numerator and denominator.

The reciprocal of $\frac{2}{5}$ is $\frac{5}{2}$.

Step 2: Multiply the whole number to the numerator of the fraction. Simplify if necessary.

$$3 \times \frac{5}{2} = \frac{3 \times 5}{2} = \frac{15}{2}$$

She needs 15/2 sacks of flour.

MORE EXAMPLES

Given: $5 \div \frac{1}{2}$

Step 1: Get the reciprocal of the fraction. Just interchange the numbers in the numerator and denominator.

The reciprocal of $\frac{1}{2}$ is $\frac{2}{1}$.

Step 2: Multiply the whole number to the numerator of the fraction. Simplify if necessary.

$5 \times \frac{2}{1} = \frac{5 \times 2}{1} = 10$

Try this...

$12 \div \frac{2}{3} = ???$

$8 \div \frac{4}{5} = ???$

DIVIDING FRACTION BY WHOLE NUMBER

Example: $\frac{2}{5} \div 4$

Step 1: Multiply the bottom number of the fraction by the whole number.

$$\frac{2}{5 \times 4} = \frac{2}{20}$$

Step 2: Simplify the fraction.

$$\frac{2}{20} = \frac{1}{10}$$

EXERCISE

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

2. $\frac{4}{6} \div 2$

TABLE OF ACTIVITIES

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STAR RATING

Rate the restaurant according to its correct performance. Write the word RECOMMEND if the given is true, otherwise write FAIL if the given is false.

To divide a fraction by whole number, simply multiply the numerator by the whole number.

1. _____

The second step in dividing whole numbers by fraction is optional.

2. _____

Two-fourths divided by 8 is two over thirty-two.

3. _____

One-sixths divided by 4 is one over twenty-four.

4. _____

WHAT WENT WRONG?

Oh no! Some of the ingredients for the salad are wrong. Identify the mistake by crossing it out then write the correct answer or solution on the space provided.

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

2. $\frac{5}{12} \div 10 = \frac{50}{120} = \frac{1}{24}$

3. $\frac{5}{9} \div 7 = \frac{5}{63} = \frac{1}{12}$

4. $\frac{6}{7} \div 10 = \frac{60}{70}$

RECEIPT, PLEASE

Your customers are waiting for their receipts! Find the quotient of the following given.

$15 \div \frac{1}{3} = ???$

1.

$6 \div \frac{3}{5} = ???$

2.

$10 \div \frac{6}{7} = ???$

3.

$9 \div \frac{7}{3} = ???$

4.

MENU

Here are the Menu for Cathy's restaurant! Identify the products available by solving each given. Show your complete solution.

M E N U

1. $\frac{8}{12} \div 2 =$

3. $\frac{11}{12} \div 8 =$

2. $\frac{5}{12} \div 9 =$

4. $\frac{4}{12} \div 12 =$

INGREDIENTS

It is now the time to identify the ingredients needed for each food products! Supply the missing dividend, divisor, or quotient to complete the equation.

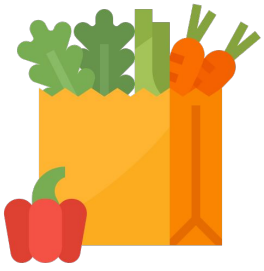
1. $\frac{3}{4} \div __ = \frac{3}{60} = \frac{1}{20}$

2. $\frac{1}{4} \div 6 = __$

3. $__ \div 8 = \frac{1}{40}$

4. $\frac{5}{6} \div 5 = __ = __$

5. $__ \div 12 = \frac{6}{84} = __$



6. $\frac{2}{5} \div __ = \frac{2}{20} = __$

MGB RESTAURANT

MGB Restaurant is now open! Mae wants to go to the restaurant as they give discount coupons to people who can answer the word problems. Help Mae by answering each problems below. Solve it in a separate sheet of paper. Just write your answer on the space below each number.

John has coffee and he want to share it with his friends. He wants to give one half of a liter to each friend. If he has 6 liters of coffee to give to his friends, how many friends can he share his coffee with?

4.

Sara is decorating her pots. She needs one eighth of a liter to paint all 9 pots. How much paint will she need for each 9 pots if she uses the same amount of paint on each?

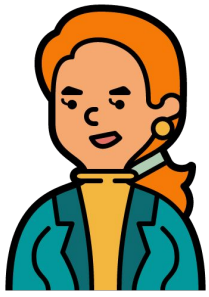
3.

Luke painted his house. He used one fourth of his paint to paint 5 walls. What fraction of his paint did Luke use on each wall if he used the same amount of paint on each?

2.

A team of 8 construction workers worked together to build 4 sheds in 10 days. How much of a shed did each of them build?

1.



WORKER HIRING

There is still one spot remaining at the MGB Restaurant! You would not miss the chance, just answer the requirements then you are hired! Answer the given below.

1. $\frac{9}{18} \div 3 =$

2. $\frac{4}{20} \div 5 =$

3. $\frac{6}{24} \div 6 =$

Solution

4. Sheila has 9 liters of powdered milk tea and she wants it to share with her colleagues. She wants to give one fifth to each colleague. How many colleagues can she share her powdered milk tea with?

Solution

FOOD PRICE LIST

Help Cherry put a price list on her products. Solve the following word problems. Make sure to show your complete solution.

1. How many ⅓ are there in 18?

2. How many 6/5 cm can fit in 12-cm?

3. How many ⅔ are there in 14?

CUSTOMER FEEDBACKS

Summarize and report your customer's feedback by creating your own word problem. You are tasked to form and create 3 word problems. Show your solution.

BUSINESS LESSON

Time to show what you learned in your restaurant business. Answer the following questions in not less than 4 sentences.

1. What is the significance of learning the division of whole numbers by fraction?

2. How can you use your learning in real life situations? Cite concrete example/s.

ANSWER GUIDE

Activity 1

1. Fail
2. Recommend
3. Fail
4. Recommend

Activity 2

1. 2/5
2. 50/120
3. 1/12
4. 60/70

Activity 3

1. 45 2. 10 3. 70/6 or 35/3 4. 27/7

Activity 4

1. 1/3
2. 5/108
3. 11/96
4. 1/36

Activity 5

1. 15 2. 1/24 3. 1/5 4. 5/30, 1/6
5. 6/7, 1/14 6. 1/10

ANSWER GUIDE

Activity 6

1. 1/20
2. 1/20
3. 1/72
4. 12

Activity 7

1. 1/6
2. 1/25
3. 1/24
4. 45

Activity 8

1. 42 2. 10 3. 21

Activity 9

Answers may vary.

Activity 10

Answers may vary.

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