Helping With Math

Adding and Subtracting Similar Fractions and Mixed Numbers

GRADE 4

A fraction is a numerical quantity which is not a whole number. There are different kinds of fractions, such as proper fractions, improper fractions and mixed numbers. Here you will be learning the steps on how to add and subtract these kinds of fraction.

Want to help me do some farm chores? Let's study first!

Similar fractions are fractions with the same denominators or what we usually call as common denominators. (e.g. $\frac{2}{3}$ & $\frac{1}{3}$)

A mixed fraction, on the other hand, is a combination of a whole number and a fraction combined into one. (e.g. $2\frac{1}{3}$)

HOW TO ADD & SUBTRACT SIMILAR FRACTIONS

Step 1:
Simply add and subtract the numerators of the fractions, while the denominators will remain the same.

Step 2:
Always reduce your answers to its simplest form.

Examples:

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

HOW TO ADD & SUBTRACT MIXED NUMBERS

Step 1:
Convert the mixed numbers into improper fractions.

Step 2:
Simply add and subtract the numerators of the fractions then convert it back to a Mixed Fraction.

Examples:

$$3\frac{1}{4} + 2\frac{2}{4} = \frac{13}{4} + \frac{10}{4} = \frac{23}{4} = 5\frac{3}{4}$$

$$5\frac{1}{4} - 2\frac{2}{4} = \frac{21}{4} - \frac{10}{4} = \frac{11}{4} = 2\frac{3}{4}$$

MIXED NUMBERS TO IMPROPER FRACTION

1. Multiply the denominator by the whole number.

2. Add the numerator to the product of the denominator and whole number

3. The sum will be the numerator then copy the denominator.

IMPROPER FRACTION TO MIXED NUMBERS

1. Divide the numerator by the denominator.

2. Write down the quotient as whole number and the remainder will serve as the new numerator. Copy the denominator.

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

$$\frac{5}{7} - \frac{3}{7}$$

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

$$5\frac{1}{3} - 3\frac{2}{3}$$

TABLE OF ACTIVITIES

1. Harvest Season
2. Planting Time!
3. The Field Trip
4. Vacation at the Farm
5. Count the Fruits
6. Farmer John
7. Renovate the Farm
8. Order Taking
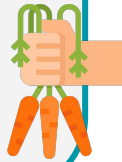9. Difficult Order
10. Get Free Rice

HARVEST SEASON

It's harvest season! Help the farmers harvest the crops by choosing the letter of the correct answer. Show your solutions on the spaces provided.

1. There are $^3/_8$ kg bananas and $^5/_8$ kg apples in the basket. How many kgs of fruits are in the basket?
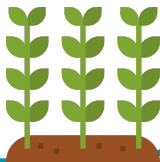
a. 1 kg

b. $^1/_2$ kg

2. $^1/_{10}$ kg broccoli and $^7/_{10}$ kg spinach are to be delivered today. How many kgs will be delivered?

a. ⅖ kg

b. ⅘ kg

3. $^5/_{12}$ kg of mangos and $^2/_{12}$ kg of oranges were harvested. How many kilos of fruits were harvested in all?

a. $^7/_{24}$ kg

b. $^7/_{12}$ kg

4. There are $^{49}/_{100}$ kg of watermelon. $^{20}/_{100}$ kgs were bought by a customer. How many were left?

a. $^{29}/_{100}$ kg

b. $^{29}/_{200}$ kg

5. I bought $^7/_8$ kg of tomato. $^5/_8$ kg were used. How many tomatoes were left?

a. $^1/_4$ kg

b. $^1/_8$ kg

6. If $^{37}/_{100}$ kg onions out of $^{73}/_{100}$ kg onions were used. How many onions were left?

a. $^9/_{100}$ kg

b. $^9/_{25}$ kg

Adding and Subtracting Similar Fractions and Mixed Numbers
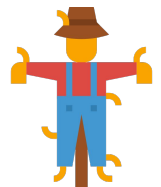
PLANTING TIME!

It is the perfect time to plant new crops! Match the correct answer to the problems below to help in planting quickly. Draw a line that connects to the right answer

How many seedling bags are needed for 5 $\frac{1}{8}$ and 3 $\frac{3}{8}$ bags of tomato seedlings?

11 $^2/_8$

Find the total quantity of garden soil bags needed if you require 25/100, 50 /100 and 150/100 bags for planting.

1 $^6/_{12}$

Determine the total number of corn seedling bags if you needed 7/12 and 11/12 bags.

8 $^4/_8$

2 $^{25}/_{100}$

Solve for the total kilograms of fertilizer if you need 1 1/12 , 2 3/12 kilograms of fertilizer.

3 $^4/_{12}$

Determine the total amount of water in liters if you need 2 $\frac{7}{8}$ and 8 $\frac{3}{8}$ liters of water.

7 $\frac{3}{8}$

THE FIELD TRIP

The school nearby went on a field trip to the farm. Encourage the children to eat fruits and vegetables while answering the following problems below. Don't forget to show your solutions.

If $^{12}/_{100}$ is added to $^{16}/_{100}$, what is the sum?

If $^{8}/_{12}$ is subtracted from $^{11}/_{12}$, what is the difference?

If $2\ ^{3}/_{10}$ is added to $4\ ^{7}/_{10}$, what is the sum?

If $3\ ^{4}/_{8}$ is subtracted from $4\ ^{4}/_{8}$, what is the difference?

If $^{45}/_{100}$ is subtracted from $^{40}/_{100}$, what is the difference?

$^{8}/_{8}$

$^{7}/_{2}$

5

$^{1}/_{2}$

0

$1\ 4/8$

7

$^{1}/_{6}$

VACATION AT THE FARM

Your family visited your grandpa's farm. Enjoy the vacation while identifying if the statement is TRUE OR FALSE. If false, write the correct answer. Don't forget to show your solutions!

$^5/_6$ of the apple has been consumed. If Ella and Ana ate $^5/_{12}$ each.

Mom has a total of 1 $^7/_{10}$ kgs of cabbage and lettuce when she bought 8/10 kgs cabbage and 9/10 kgs lettuce.

$^3/_{25}$ kgs is left when you remove $^{30}/_{100}$ kgs from $^{50}/_{100}$ kgs.

There is only $^5/_8$ kgs left if $^1/_8$ kgs fresh tomatoes are separated from $^7/_8$ kg crate of tomatoes.

A total of $^4/_5$ kgs of corn is in the sack if $^3/_{10}$ kgs is added to the existing $^5/_{10}$ kgs.

Adding and Subtracting Similar Fractions and Mixed Numbers

COUNT THE FRUITS

The farmer is checking the fruits for delivery. Help him count the fruits by solving the problems below and showing your solution.

What is the total of $2\frac{3}{8}$ bananas and $3\frac{5}{8}$ oranges?

What is the total of $5\frac{7}{10}$ strawberries and $4\frac{3}{10}$ watermelon?

What is the sum of $3\frac{7}{12}$ green apples and $2\frac{5}{12}$ red apples?

What is the difference between $4\frac{7}{8}$ ripe grapes and $3\frac{3}{8}$ unripe grapes?

What is the difference between $5\frac{3}{10}$ cantaloupe and $5\frac{2}{10}$ lemon?

FARMER JOHN

It is time to deliver the market's orders. Help farmer John in checking if the orders are complete. Show your solutions on the spaces provided.

Farmer John was checking the crops to be delivered to the market. Upon checking, he saw that there were $^{57}/_{100}$ kgs of potatoes were inside a sack. In another sack was $^{49}/_{100}$ kgs of tomatoes, and last contains $^{27}/_{100}$ kgs of garlics and $^{19}/_{100}$ kgs of onions.

1. Find the sum of the potatoes and tomatoes.

2. Find the sum of the potatoes and garlic.

3. Find the difference between the tomatoes and garlic.

4. Find the difference between garlic and onions.

RENOVATE THE FARM

Time to renovate the farm! Determine the quantity of materials needed for your farm upgrade. Don't forget to show your solutions.

1. How many gallons of paint do you need for 5 ⅜ gallons red paint and 2 ⅛ gallons white paint?

2. Determine the total boxes of nails you will be needing with 1 ⅛ and 3 ⅞ boxes.

3. Determine the number of cement bags needed with $^9/_{10}$, $^{14}/_{10}$ and $^3/_{10}$ bags.

4. Find the total number of planks you need with $^3/_{12}$, $^7/_{12}$ and $^1/_{12}$ wooden planks.

5. Find the total number of sheets you need with $^{89}/_{100}$, $^{73}/_{100}$ and $^{67}/_{100}$ roof sheets.

6. How many gallons of water in total is needed to clean the farm if you need $^3/_{12}$ and $^{10}/_{12}$ gallons of water.

ORDER TAKING

The restaurant owner came to the farm to buy fruits. Answer the following problems below to complete their orders correctly. Show your solution too.

The nearby restaurant sent their orders to the farm. They need to have a total of $^{87}/_{100}$ kgs of pineapples, with the remaining $^{45}/_{100}$ kgs in their storage. Aside from the pineapples, they also need $^{25}/_{100}$ kgs of mangoes and $^{11}/_{100}$ kgs of melon. While buying they remembered that they needed $^{23}/_{100}$ kgs of apple but only has $^{15}/_{100}$ remaining in their storage.

How many kgs of pineapple should be bought?
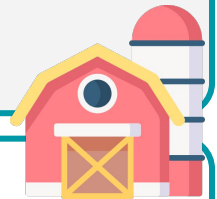
How many kgs of mangoes and melon should be bought?

How many kgs of apple should be bought?

How many kgs pineapple and melon should be bought?

How many kgs in total are they going to buy?

Orders have been coming daily. Help the farmer with the orders by solving the number of items needed then arrange those from least to greatest.

The farmer received the orders from the grocery. The list has the following:

1. $^{27}/_{100}$ kgs of potato + $^{13}/_{100}$ kgs of potato
2. $^{50}/_{100}$ kgs of chicken - $^{23}/_{100}$ kgs of chicken
3. $^{73}/_{100}$ kgs of onion - $^{52}/_{100}$ kgs of onion
4. $^{15}/_{100}$ kgs of garlic + $^{13}/_{100}$ kgs of garlic
5. $^{37}/_{100}$ kgs of carrots - $^{12}/_{100}$ kgs of carrots

SOLUTIONS	LEAST TO GREATEST

GET FREE RICE

Farmer Greg is giving away a kilo of rice. To get one, briefly answer the following questions below.

Explain in your own words how to add mixed fractions and similar fractions.

_____

_____

_____

_____

Explain how to convert mixed fractions to improper fractions.

_____

_____

_____

_____
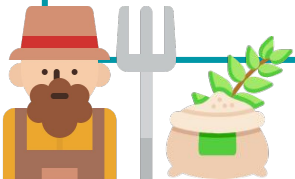
ANSWER GUIDE

Activity 1

1. **A.** $\frac{5}{8} + \frac{3}{8} = 8/8 = 1$ 2. **B.** $1/10 + 7/10 = 8/10 = 4/5$
3. **B.** $5/12 + 2/12 = 7/12$ 4. **A.** $49/100 - 20/100 = 29/100$
5. **A.** $\frac{7}{8} - \frac{5}{8} = 2/8 = \frac{1}{4}$ 6. **B.** $73/100 - 37/100 = 36/100 = 9/25$

Activity 2

1. $5 \frac{1}{8} + 3 \frac{3}{8} = 41/8 + 27/8 = 68/8 =$ **8 $\frac{4}{8}$**
2. $25/100 + 50/100 + 150/100 = 225/100 =$ **2 25/100**
3. $7/12 + 11/12 = 18/12 =$ **1 6/12**
4. $1\ 1/12 + 2\ 3/12 = 13/12 + 27/12 = 40/12 =$ **3 4/12**
5. $2 \frac{7}{8} + 8 \frac{3}{8} = 23/8 + 67/8 = 90/8 =$ **11 2/8**

Activity 3

1. $12/100 + 16/100 = 28/100 =$ **7/25**
2. $11/12 - 8/12 = 2/12 =$ **1/6**
3. $2\ 3/10 + 4\ 7/10 = 23/10 + 47/10 = 70/10 =$ **7**
4. $4\ 4/8 - 3\ 4/8 = 36/8 - 24/8 = 12/8 =$ **1 4/8**
5. $45/100 - 40/100 = 5/100 =$ **1/20**

Activity 4

1. **TRUE** $5/12 + 5/12 = 10/12 = 5/6$
2. **TRUE** $8/10 + 9/10 = 17/10 = 1\ 7/10$
3. **FALSE** $50/100 - 30/100 = 20/100 =$ **1/5**
4. **FALSE** $\frac{7}{8} - \frac{1}{8} = 6/8 =$ **3/4**
5. **TRUE** $3/10 + 5/10 = 8/10 = 4/5$

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ANSWER GUIDE

Activity 5

1. $2 \frac{3}{8} + 3 \frac{5}{8} = 19/8 + 29/8 = 48/8 =$ **6**
2. $5 \, 7/10 + 4 \, 3/10 = 57/10 + 43/10 = 100/10 =$ **10**
3. $3 \, 7/12 + 2 \, 5/12 = 43/12 + 29/12 = 72/12 =$ **6**
4. $4 \frac{7}{8} - 3 \frac{3}{8} = 39/8 - 27/8 = 12/8 =$ **1 4/8**
5. $5 \, 3/10 - 5 \, 2/10 = 53/10 - 52/10 =$ **1/10**

Activity 6

1. $57/100 + 49/100 = 106/100 =$ **1 6/100**
2. $57/100 + 27/100 = 84/100 =$ **11/25**
3. $49/100 - 27/100 = 22/100 =$ **11/50**
4. $27/100 - 19/100 = 8/100 =$ **2/25**

Activity 7

1. $5 \frac{3}{8} + 2 \frac{1}{8} = 43/8 + 17/8 = 60/8 =$ **7 4/8**
2. $1 \frac{1}{8} + 3 \frac{7}{8} = 9/8 + 31/8 = 40/8 =$ **5**
3. $9/10 + 14/10 + 3/10 = 26/10 =$ **1 6/10**
4. $3/12 + 7/12 + 1/12 =$ **11/12**
5. $89/100 + 73/100 + 67/100 = 229/100 =$ **2 29/100**
6. $3/12 + 10/12 = 13/12 =$ **1 1/12**

Activity 8

1. $87/100 - 45/100 = 42/100 =$ **21/50**
2. $25/100 + 11/100 = 36/100 =$ **9/25**
3. $23/100 - 15/200 = 8/100 =$ **2/25**
4. $42/100 + 11/100 =$ **53/100**
5. $25/100 + 11/100 + 42/100 + 8/100 = 86/100 =$ **43/50**

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ANSWER GUIDE

Activity 9

1. 27/100 + 13/100 = 40/100 = 2/5
2. 50/100 - 23/100 = 27/100
3. 73/100 - 52/100 = 21/100
4. 15/100 + 13/100 = 28/100 = 7/25
5. 37/100 - 12/100 = 25/100 = ¼

Least to Greatest

1. 21/100
2. 25/100
3. 27/100
4. 28/100
5. 40/100

Activity 10

1. To add and subtract simple fractions, Simply add and subtract the numerators of the fractions, while the denominators will remain the same.Always reduce your answers to its simplest form.

To add and subtract mixed fractions, Convert the Mixed Fraction into a Improper Fraction. Simply add and subtract the numerators of the fractions then convert it back to a Mixed Fraction.

2.Multiply the denominator with the whole number. Add the numerator with the product of the denominator and whole number. The sum will be the numerator then copy the denominator.

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