



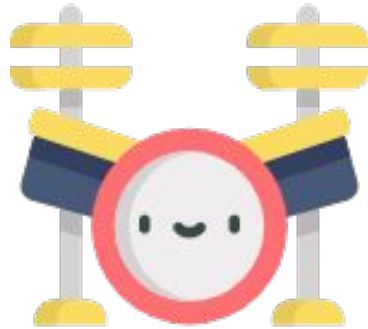
# Helping With Math

## Unlike Fractions (Denominators Greater than 10)

**GRADE 5**



Unlike fractions are classified as fractions that have different denominators.



### LIKE FRACTIONS

These are fractions with  
same denominators.

### UNLIKE FRACTIONS

These are fractions with  
different denominators.

Unlike Fractions (Denominators Greater  
than 10)



## STEPS OF ADDING

### UNLIKE FRACTIONS WITH DENOMINATOR GREATER THAN 10



Find the sum of  $\frac{2}{12} + \frac{1}{5} + \frac{3}{4}$ .



#### Steps for Adding/Subtracting Fractions with Unlike Denominators

1. Find the least common denominator by identifying the least common multiple for the denominators.
2. Rewrite the fractions to equivalent fractions (making sure that each equivalent fraction contains the least common denominator (LCM))
3. Add/subtract the equivalent fractions that you wrote in step 2. (The denominators should now be the same.)
4. Simplify if necessary.



## ILLUSTRATIVE EXAMPLES



Find the sum of  $\frac{10}{12} + \frac{1}{5} + \frac{3}{4}$ .

1. Find the least common denominator by identifying the least common multiple for the denominators.

The LCM of 12, 5, and 4 is 60.

2. Rewrite the fractions to equivalent fractions

$$\frac{2}{12} + \frac{1}{5} + \frac{3}{4} = \frac{10}{60} + \frac{12}{60} + \frac{45}{60}$$

3. Add/subtract the equivalent fractions that you wrote in step 2.

$$\frac{10}{60} + \frac{12}{60} + \frac{45}{60} = \frac{10 + 12 + 45}{60} = \frac{67}{60}$$

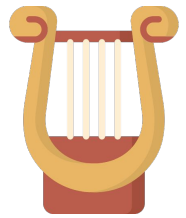
4. Simplify if necessary.

$\frac{67}{60}$  or  $1 \frac{7}{60}$  is already in simplest form.



## ILLUSTRATIVE EXAMPLES

Find the difference of  $\frac{10}{12} - \frac{2}{11} - \frac{1}{2}$ .



1. Find the least common denominator by identifying the least common multiple for the denominators.

The LCM of 12, 11, and 2 is 132.

2. Rewrite the fractions to equivalent fractions

$$\frac{10}{12} - \frac{2}{11} - \frac{1}{2} = \frac{121}{132} - \frac{24}{132} - \frac{66}{132}$$

3. Add/subtract the equivalent fractions that you wrote in step 2.

$$\frac{121}{132} - \frac{24}{132} - \frac{66}{132} = \frac{121 - 24 - 66}{132} = \frac{31}{132}$$

4. Simplify if necessary.

$\frac{31}{132}$  is already in simplest form.



## ILLUSTRATIVE EXAMPLES



Find the difference of  $\frac{8}{13} + \frac{2}{10} - \frac{3}{5}$

1. Find the least common denominator by identifying the least common multiple for the denominators.

The LCM of 13, 10, and 5 is 130.

2. Rewrite the fractions to equivalent fractions

$$\frac{8}{13} + \frac{2}{10} - \frac{3}{5} = \frac{80}{130} + \frac{26}{130} - \frac{78}{130}$$

3. Add/subtract the equivalent fractions that you wrote in step 2.

$$\frac{80}{130} + \frac{26}{130} - \frac{78}{130} = \frac{80 + 26 - 78}{130} = \frac{28}{130}$$

4. Simplify if necessary.

$$\frac{28}{130} \text{ or } \frac{14}{65}$$

Unlike Fractions (Denominators Greater than 10)



## PRACTICE EXERCISES

Nelly combined  $20/13$  cups of cake flour and  $15/11$  cups of almond flour. She realized that the dry mixture is a bit too much so she decreased the amount by 4 cups. How many cups of dry ingredient were left?

1. Find the least common denominator by identifying the least common multiple for the denominators.

2. Rewrite the fractions to equivalent fractions

3. Add/subtract the equivalent fractions that you wrote in step 2.

4. Simplify if necessary.



## TABLE OF ACTIVITIES

1. Music Player
2. Old Songs
3. Sound Check
4. The DJ Mixer
5. Music Fanfest
6. The Math Band
7. Carter's Dream Instruments
8. Instruments' Sale!
9. Music Jam
10. Musical Understanding



# MUSIC PLAYER

Using the given cards, identify and solve for the sum of the following fractions. Show your complete solution

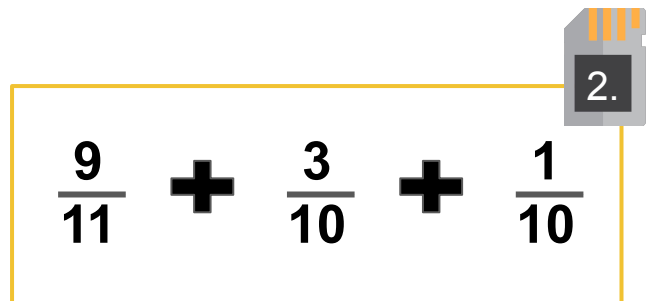
1.

$$\frac{3}{10} + \frac{1}{13} + \frac{1}{2}$$



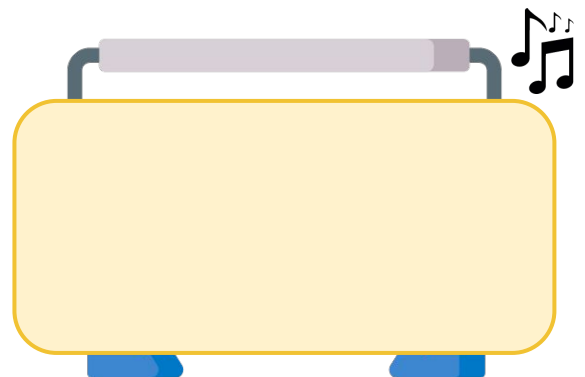
2.

$$\frac{9}{11} + \frac{3}{10} + \frac{1}{10}$$



3.

$$\frac{5}{9} + \frac{4}{15} + \frac{3}{2}$$



Unlike Fractions (Denominators Greater than 10)





## OLD SONGS

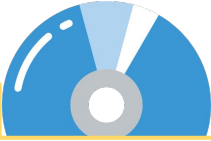
Match the CD's on its corresponding gramophone by solving the difference. Draw a line to show your answer.

1.



$$\frac{14}{15} - \frac{1}{2} - \frac{3}{10}$$

2.



$$\frac{5}{6} - \frac{5}{14} - \frac{1}{11}$$

3.

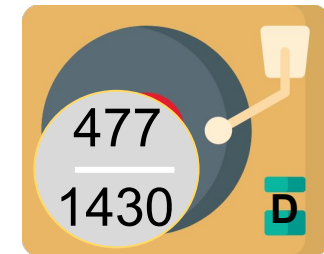
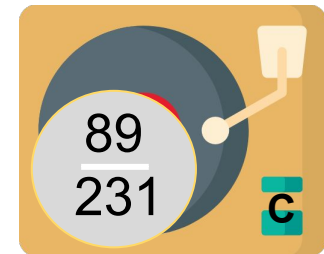
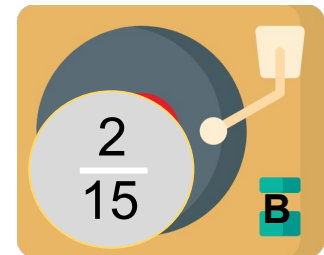
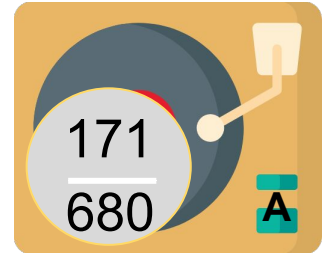


$$\frac{8}{13} - \frac{1}{10} - \frac{2}{11}$$

4.



$$\frac{20}{17} - \frac{1}{8} - \frac{4}{5}$$



Unlike Fractions (Denominators Greater than 10)



## SOUND CHECK

It is now time to test the microphones. Examine each expression carefully. Explain what went wrong and correct it.

1.

$$\frac{2}{12} + \frac{1}{5} + \frac{3}{4} = \frac{10}{30} + \frac{12}{30} + \frac{45}{30}$$

What went wrong?



Corrected Solution

2.

$$\frac{121}{132} - \frac{24}{132} - \frac{66}{132} = \frac{121 - 48 - 66}{132} = \frac{7}{132}$$

What went wrong?



Corrected Solution

3.

$$\frac{80}{130} + \frac{26}{130} - \frac{78}{130} = \frac{80 + 26 - 78}{130} = \frac{28}{130}$$

What went wrong?



Corrected Solution

Unlike Fractions (Denominators Greater than 10)



# THE DJ MIXER

Hooray! Here comes DJ Harvey to mix and match your favorite songs. Solve for their sum.

1.  $\frac{13}{15} + \frac{5}{2}$

2.  $\frac{10}{17} + \frac{2}{5}$

3.  $\frac{1}{13} + \frac{6}{7}$

4.  $\frac{15}{18} + \frac{9}{8}$

5.  $\frac{11}{12} + \frac{2}{11}$

Unlike Fractions (Denominators Greater than 10)



# MUSIC FANFEST

Here comes the different bands together at one stage! Help Izzie get into the fanfest by solving for the given's differences.



5.

$$\frac{13}{17} - \frac{6}{12}$$

4.

$$\frac{25}{20} - \frac{8}{10}$$

3.

$$\frac{9}{14} - \frac{2}{7}$$

2.

$$\frac{19}{11} - \frac{4}{13}$$

1.

$$\frac{21}{17} - \frac{10}{11}$$

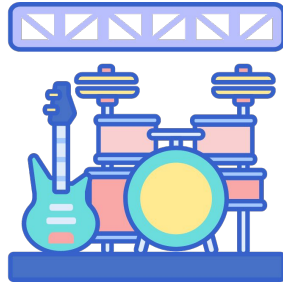


Unlike Fractions (Denominators Greater than 10)





# THE MATH BAND



Hurry! The tickets for the band are running out of stock! Get yours by solving the following fraction. You only have 3 minutes to accomplish the task.





1.


$$\frac{9}{20} - \frac{4}{15}$$


2.


$$\frac{19}{15} - \frac{26}{25}$$



3.



$$\frac{17}{30} + \frac{11}{23}$$


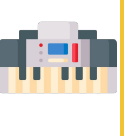



# CARTER'S DREAM INSTRUMENTS


Help Carter achieve the musical instruments he wanted. Solve the following sum. Then, match the given with the answer by writing the letter on the space provided.

A.  $\frac{1513}{156}$  

B.  $\frac{653}{143}$  

C.  $\frac{803}{60}$  

D.  $\frac{2155}{304}$  

E.  $\frac{893}{100}$  

$7 \frac{13}{20} + 5 \frac{11}{15}$

3.

$4 \frac{9}{16} + 2 \frac{10}{19}$

2.

$6 \frac{8}{13} + 3 \frac{1}{12}$

4.

$1 \frac{2}{11} + 3 \frac{5}{13}$

1.

$3 \frac{17}{25} + 5 \frac{5}{20}$

5.

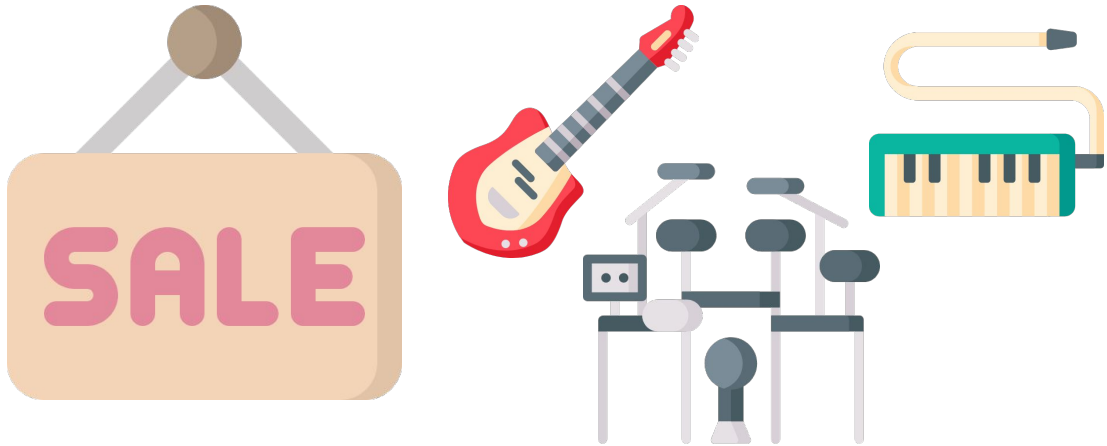


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## INSTRUMENTS' SALE!

The ABC Company has a weekend sale for their musical instruments! However, before you can avail the sale, answer the question provided first. Solve for what is being asked.



A music shop owner was able to sell a  $180\frac{10}{17}$  kg -piano and  $4\frac{1}{10}$  kg- guitar . What is the total weight of the musical instruments that have been sold?

1.



# MUSIC JAM

Amy and her friends are excited to jam with music! But first, they need to answer the following questions in order to do so. Help them out!

Mr. Smith has a total of  $300 \frac{3}{20}$  kilograms of musical instruments to sell. Someone already bought  $3 \frac{1}{10}$  kg. Another buyer bought  $5 \frac{9}{19}$  kg. What is the weight of the remaining musical instruments?

1.

A buyer bought  $64 \frac{12}{17}$  kg,  $12 \frac{3}{10}$  kg, and  $7 \frac{1}{12}$  kg of percussion instruments. His vehicle can only carry 40 kg of goods. Is it possible to carry all the instruments with the given limit capacity?

2.



Unlike Fractions (Denominators Greater than 10)





# MUSICAL UNDERSTANDING

**It's time to reflect on your learning. Answer the following questions freely.**

What are the things that you have learned from this lesson?

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What are the challenges that you encountered? How did you address it?

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How will you apply your learning in real life?

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Unlike Fractions (Denominators Greater than 10)



# ANSWER GUIDE

## Activity 1

1. 47/65

2. 67/55

3. 209/90

## Activity 2

1. B

2. C

3. D

4. A

## Activity 3

1.

What went wrong?

THE LCD MUST BE 60 NOT 30.

Corrected Solution

$$\frac{10}{60} + \frac{12}{60} + \frac{45}{60}$$

2.

What went wrong?

IT SHOULD BE 24 NOT 48

Corrected Solution

$$\frac{121 - 24 - 66}{132} = \frac{7}{132}$$

3.

What went wrong?

THE ANSWER IS NOT IN SIMPLEST FORM.

Corrected Solution

$$\frac{14}{65}$$



# ANSWER GUIDE

## Activity 4

1.  $101/30$     2.  $85/91$     3.  $84/85$     4.  $47/24$     5.  $145/132$

## Activity 5

1.  $61/187$     2.  $203/143$     3.  $5/14$     4.  $9/20$     5.  $9/34$

## Activity 6

1.  $11/60$                       2.  $59/400$                       3.  $721/690$

## Activity 7

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

## Activity 8

1. 184  $117/170$  KGS.

## Activity 9

1. 291  $219/380$  kgs of musical instruments remained.  
2. Yes, it is possible since the total weight of the goods is 29  $87/140$  kgs

## Activity 10

Answers may vary.



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