NCERT solution for Fractions-3

Exercise 7.5
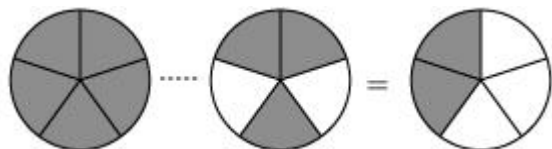**Question 1**

Write these fractions appropriately as additions or subtractions:
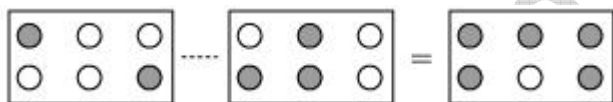
(a)

(b)

(c)

Answer

a)	First fraction 1/5	1/5 + 2/5= 3/5
	Second Fraction 2/5	Addition
	Third Fraction 3/5	
b)	First fraction =5/5	1- 3/5= 2/5
	Second fraction =3/5	Subtraction
	Third fraction =2/5	
c)	First fraction= 2/6	2/6+ 3/6= 5/6
	Second Fraction=3/6	Addition

Third Fraction 5/6	

Question 2

Solve:

(a) $\dfrac{1}{18}+\dfrac{1}{18}$

(b) $\dfrac{8}{15}+\dfrac{3}{15}$

(c) $\dfrac{7}{7}-\dfrac{5}{7}$

(d) $\dfrac{1}{22}+\dfrac{21}{22}$

(e) $\dfrac{12}{15}-\dfrac{7}{15}$

(f) $\dfrac{5}{8}+\dfrac{3}{8}$

(g) $1-\dfrac{2}{3}$,

(h) $\dfrac{1}{4}+\dfrac{0}{4}$

(i) $3-\dfrac{12}{5}$

Answer

If the denominator is same, we can add and subtract the numerator

a)	$\frac{1}{18}+\frac{1}{18}$	2/18=1/9
b)	$\frac{8}{15}+\frac{3}{15}$	11/15
c)	$\frac{7}{7}-\frac{5}{7}$	2/7
d)	$\frac{1}{22}+\frac{21}{22}$	22/22=1
e)	$\frac{12}{15}-\frac{7}{15}$	5/15=1/3
f)	$\frac{5}{8}+\frac{3}{8}$	8/8=1
g)	$1-\frac{2}{3}$	1 can be written as 3/3 So 1/3
h)	$\frac{1}{4}+\frac{0}{4}$	¼
i)	$3-\frac{12}{5}$	15/5 – 12/5= 3/5

Question 3

Shubham painted 2/3 of the wall space in his room. His sister Madhavi helped and painted 1/3 of the wall space. How much did they paint together?

Answer

Space painted by them together = Space painted by Shubham + Space painted by Madhavi

= 2/3 + 1/3= 3/3=1

So they painted the entire wall.

Question 4

Fill in the missing fractions.

(a) $\dfrac{7}{10} - \square = \dfrac{3}{10}$

(b) $\square - \dfrac{3}{21} = \dfrac{5}{21}$

(c) $\square - \dfrac{3}{6} = \dfrac{3}{6}$

(d) $\square + \dfrac{5}{27} = \dfrac{12}{27}$

Answer

a) Missing fraction will be 7/10 -3/10 = 4/10

b) Missing fraction will be 5/21 + 3/21 = 8/21

c) 1

d) 7/27

Question 5

Javed was given 5/7 of a basket of oranges. What fraction of oranges was left in the basket?

Answer

Fraction of oranges given to Javed = 5/7

Fraction of oranges left in the basket =
1 -5/7 =2/7

Exercise 7.6

Question 1

Solve

(a) $\dfrac{2}{3}+\dfrac{1}{7}$

(b) $\dfrac{3}{10}+\dfrac{7}{15}$

(c) $\dfrac{4}{9}+\dfrac{2}{7}$

(d) $\dfrac{5}{7}+\dfrac{1}{3}$

(e) $\dfrac{2}{5}+\dfrac{1}{6}$

(f) $\dfrac{4}{5}+\dfrac{2}{3}$

(g) $\dfrac{3}{4}-\dfrac{1}{3}$

(h) $\dfrac{5}{6}-\dfrac{1}{3}$

(i) $\dfrac{2}{3}+\dfrac{3}{4}+\dfrac{1}{2}$

(j) $\dfrac{1}{2}+\dfrac{1}{3}+\dfrac{1}{6}$

(k) $1\dfrac{1}{3}+3\dfrac{2}{3}$

(l) $4\dfrac{2}{3}+3\dfrac{1}{4}$

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(m) $\dfrac{16}{5} - \dfrac{7}{5}$

(n) $\dfrac{4}{3} - \dfrac{1}{2}$

Answer

In these questions, the denominator is different, so we cannot simply add the numerator. We have to first find the LCM of the denominators and then convert each fraction into that form and then do numerators addition or subtraction

a) LCM of 3 and 7 =21

So answer 17/21

b) LCM of 10 and 15 is 30

so answer is 23/30

c) LCM of 9 and 7 is 63

so answer is 46/63

d) LCM of 7 and 3 is 21

so answer is 22/21

e) LCM of 5 and 6 =30

so answer is 17/30

f) LCM of 5 and 3 =15

so answer is 22/15

g) LCM of 4 and 3 =12

answer is 5/12

h) LCM of6 and 3 =6

answer is ½

i) LCM of 2,4,3 =12

answer =23/12

j) LCM 2,3,6=6

answer =1

k) Changing mixed fraction into improper fraction

answer =5

l) Changing mixed fraction into improper fraction

LCM of 3 and 4 =12

Answer is 95/12

m) 9/5

n) 5/6

Question 2

Saria bought 2/5 metre of ribbon and Lalita ¾ metre of ribbon. What is the total length of the ribbon they bought?

Answer

Length of ribbon Saria bought = 2/5 meter

Length of ribbon Lalita bought = ¾ meter

Total length of ribbon = 2/5 + 3/4

They bought 23/20 meters of ribbon together

Question 3

Naina was given $1\frac{1}{2}$ piece of cake and Najma was given $1\frac{1}{3}$ piece of cake. Find the total amount of cake was given to both of them.

Answer

Total amount of cake both have

$= 1\frac{1}{2} + 1\frac{1}{3}$

This is mixed fraction, converting into improper fraction

$= 3/2 + 4/3$

$= 17/6$

So they total have 17/6 pieces of cake

Question 4

Fill in the boxes:
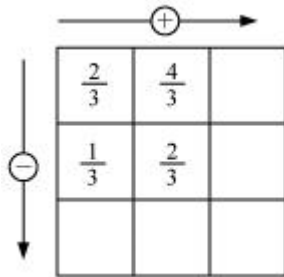
(a) $\square - \frac{5}{8} = \frac{1}{4}$

(b) $\square - \frac{1}{5} = \frac{1}{2}$
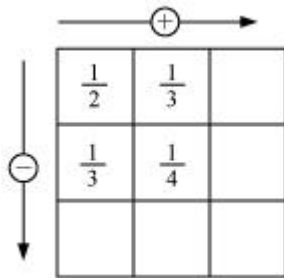
(c) $\frac{1}{2} - \square = \frac{1}{6}$

Question 5

Complete the addition-subtraction box.

(a)

(b)

Question 6

A piece of wire 7/8-metre-long broke into two pieces. One piece was ¼ metre long. How long is the other piece?

Answer

Length of the piece of wire is =7/8 meter

Length of one broken piece is =1/4 meter

Length of the other broken piece = total length of the wire – length of one broken piece

$$=7/8 – ¼ = \quad 5/8 \text{ m}$$

Length of the piece of wire is 5/8 meter

Question 7

Nandini's house is 9/10 km from her school. She walked some distance and then took a bus for ½ km to reach the school. How far did she walk?

Answer

Distance from Nandini's house to school =9/10 km

Distance covered by bus = ½ km

Distance she walked = distance from house to school – distance she covered by bus.

=9/10 - ½ = 4/10 = 2/5 km

Distance walked by Nandhini = 2/5 km

Question 8

Asha and Samuel have bookshelves of the same size partly filled with books.

Asha's shelf is 5/6th full and Samuel's shelf is 2/5 th full. Whose bookshelf is more full? By what fraction?

Answer

Fraction of books in Asha's shelf =5/6
Fraction of books in Samuel's shelf =2/5

We compare the fractions to find whose shelf is more full.
Since these are unlike fraction, we need to first find the LCM of 5 and 6 which is 30
5/6 = 25/30
2/5= 12/30
So 5/6 > 2/5

So, Asha's shelf has more books and is more full.
Fraction by which Asha bookshelf is more full
=5/6 -2/5 = 13/30

Asha's shelf is more full and by 13/30

Question 9

Jaidev takes $2\frac{1}{5}$ minutes to walk across the school ground. Rahul takes $\frac{7}{4}$ minutes to do the same. Who takes less time and by what fraction?

Answer

Time taken by Jaidev to walk = 11/5 min

Time taken by Rahul to walk across the ground =7/4 min

We compare the fractions to find who takes is less time
Since these are unlike fraction, we need to first find the LCM of 5 and 4
which is 20
11/5 = 44/20
7/4= 35/20
Clearly 7/4 < 11/5

So, Rahul takes lesser time than Jaidev.
Difference =11/5 – 7/4 = 9/20

So, Rahul takes lesser time than Jaidev, by 9/20