NCERT SOLUTIONS FOR CLASS 6 MATHS FRACTIONS EXERCISE 7.6

Question 1:

Solve

(a) $\frac{2}{3}+\frac{1}{7}$ (b) $\frac{3}{10}+\frac{7}{15}$

(c) $\frac{4}{9}+\frac{2}{7}$ (d) $\frac{5}{7}+\frac{1}{3}$

(e) $\frac{2}{5}+\frac{1}{6}$ (f) $\frac{4}{5}+\frac{2}{3}$

(g) $\frac{3}{4}-\frac{1}{3}$ (h) $\frac{5}{6}-\frac{1}{3}$

(i) $\frac{2}{3}+\frac{3}{4}+\frac{1}{2}$ (j) $\frac{1}{2}+\frac{1}{3}+\frac{1}{6}$

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

(m) $\frac{16}{5}-\frac{7}{5}$ (n) $\frac{4}{3}-\frac{1}{2}$

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

$=\frac{(2\times7)+(1\times3)}{21}$ (Taking L.C.M as 21)

$=\frac{14+3}{21}=\frac{17}{21}$

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

$=\frac{(3\times3)+(7\times2)}{30}$ (Taking 30 as L.C.M)

$=\frac{9+14}{30}=\frac{23}{30}$

Question 2:

Sarita bought $\frac{2}{5}$ metre of ribbon and Lalita $\frac{3}{4}$ metre of ribbon. What is the total length of the ribbon they bought?

Answer:

Length of ribbon bought by Sarita = $\frac{2}{5}$ m

Length of ribbon bought by Lalita = $\frac{3}{4}$ m

Total length of ribbon bought by them = $\frac{2}{5}+\frac{3}{4}$

$=\frac{(2\times4)+(3\times5)}{20}=\frac{8+15}{20}=\frac{23}{20}$ m

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:

Fraction Naina got = $1\frac{1}{2}=\frac{3}{2}$

Fraction Najma got = $1\frac{1}{3}=\frac{4}{3}$

$$\text{Total amount of cake given to them} = \frac{3}{2}+\frac{4}{3}=\frac{3\times3+4\times2}{6}$$
$$=\frac{9+8}{6}=\frac{17}{6}=2\frac{5}{6}$$

Question 4:

Fill in the boxes: (a) $\square-\frac{5}{8}=\frac{1}{4}$ (b) $\square-\frac{1}{5}=\frac{1}{2}$ (c) $\frac{1}{2}-\square=\frac{1}{6}$

Answer:

(a) $\square-\frac{5}{8}=\frac{1}{4}$

$$\square=\frac{1}{4}+\frac{5}{8}=\frac{1\times2+5}{8}=\frac{2+5}{8}=\frac{7}{8}$$

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

$$\square=\frac{1}{2}+\frac{1}{5}=\frac{(1\times5)+(1\times2)}{10}=\frac{5+2}{10}=\frac{7}{10}$$

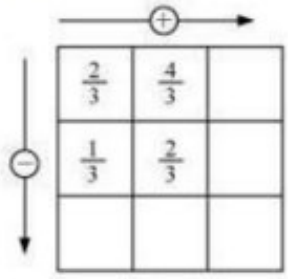
(c) $\frac{1}{2}-\square=\frac{1}{6}$

$$\square=\frac{1}{2}-\frac{1}{6}=\frac{(1\times3)-1}{6}=\frac{3-1}{6}=\frac{2}{6}=\frac{1}{3}$$

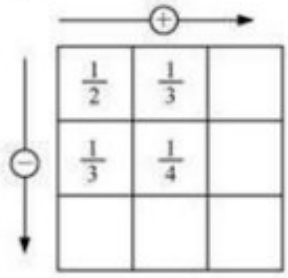
Question 5:

Complete the addition-subtraction box.

(a)



(b)



Answer:

(a) $\frac{2}{3}+\frac{4}{3}=\frac{2+4}{3}=\frac{6}{3}=2$

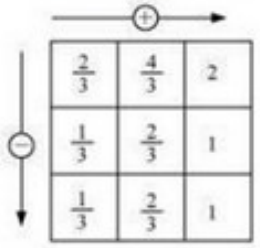
$\frac{1}{3}+\frac{2}{3}=\frac{1+2}{3}=\frac{3}{3}=1$

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

$\frac{4}{3}-\frac{2}{3}=\frac{4-2}{3}=\frac{2}{3}$

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

Hence, the given box can be completed as



(b) $\frac{1}{2}+\frac{1}{3}=\frac{(1\times3)+(1\times2)}{6}=\frac{3+2}{6}=\frac{5}{6}$

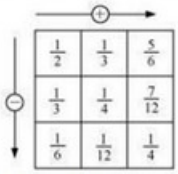
$\frac{1}{3}+\frac{1}{4}=\frac{(1\times4)+(1\times3)}{12}=\frac{4+3}{12}=\frac{7}{12}$

$\frac{1}{2}-\frac{1}{3}=\frac{(1\times3)-(1\times2)}{6}=\frac{3-2}{6}=\frac{1}{6}$

$\frac{1}{3}-\frac{1}{4}=\frac{(1\times4)-(1\times3)}{12}=\frac{4-3}{12}=\frac{1}{12}$

$\frac{1}{6}+\frac{1}{12}=\frac{(1\times2)+1}{12}=\frac{2+1}{12}=\frac{3}{12}=\frac{1}{4}$

Hence, the given box can be completed as



Question 6:

A piece of wire $\frac{7}{8}$ metre long broke into two pieces. One piece was $\frac{1}{4}$ metre long. How long is the other piece?

Answer:

Length of one piece = $\frac{1}{4}$m

The length of the other piece of wire will be the difference of the lengths of the original wire and this piece of wire.

Hence, length of the other piece of wire = $\frac{7}{8}-\frac{1}{4}$

$=\frac{7-(1\times2)}{8}=\frac{7-2}{8}=\frac{5}{8}$ m

Question 7:

Nandini's house is $\frac{9}{10}$ km from her school. She walked some distance and then took a bus for $\frac{1}{2}$ km to reach the school. How far did she walk?

Answer:

Distance walked by Nandini = Total distance − Distance for which she took the bus

$$=\frac{9}{10}-\frac{1}{2}$$

$$=\frac{9-1\times5}{10}=\frac{9-5}{10}=\frac{4}{10}=\frac{2}{5}\text{ km}$$

Question 8:

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

Asha's shelf is $\frac{5}{6}$ th full and Samuel's shelf is $\frac{2}{5}$ th full. Whose bookshelf is more full? By what fraction?

Answer:

Fraction of Asha's shelf = $\frac{5}{6}$

Fraction of Samuel's shelf = $\frac{2}{5}$

Converting these into like fractions,

$$\frac{5}{6}=\frac{5}{6}\times\frac{5}{5}=\frac{25}{30}$$

$$\frac{2}{5}=\frac{2}{5}\times\frac{6}{6}=\frac{12}{30}$$

$$\frac{25}{30}>\frac{12}{30}$$

Clearly, Asha's bookshelf is more full.

Difference = $\frac{5}{6}-\frac{2}{5}=\frac{25}{30}-\frac{12}{30}=\frac{13}{30}$

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 = $2\frac{1}{5}$ minutes = $\frac{11}{5}$ min

Time taken by Rahul = $\frac{7}{4}$ min

Converting these into like fractions,

$$\frac{11}{5}=\frac{11}{5}\times\frac{4}{4}=\frac{44}{20}$$

$$\frac{7}{4}=\frac{7}{4}\times\frac{5}{5}=\frac{35}{20}$$

As $44>35$,

$$\frac{11}{5}>\frac{7}{4}$$

Hence, Rahul takes lesser time.

Difference = $\frac{11}{5}-\frac{7}{4}$

$$=\frac{44}{20}-\frac{35}{20}=\frac{9}{20}\text{ min}$$

F

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