CLASS NOTES

Class: VI	Topic: Fractions (Ch – 7) Day –Monday Date- 25/10/21
Subject: Mathematics	

Exercise – 7.4

Q -6.The following fractions represent just three different numbers. Separate them into three groups of equivalent fractions, by changing each one to its simplest form.

$(a)\ \frac{2}{12}$ $(b)\ \frac{3}{15}$ $(c)\ \frac{8}{50}$ $(d)\ \frac{16}{100}$

$(e)\ \frac{10}{60}$ $(f)\ \frac{15}{75}$ $(g)\ \frac{12}{60}$ $(h)\ \frac{16}{96}$

$(i)\ \frac{12}{75}$ $(j)\ \frac{12}{72}$ $(k)\ \frac{3}{18}$ $(l)\ \frac{4}{25}$

Solution

$(a)\ \frac{2}{12} = \frac{2 \div 2}{12 \div 2} = \frac{1}{6}$ [∵ HCF of 2 and 12 is 2]

$(b)\ \frac{3}{15} = \frac{3 \div 3}{15 \div 3} = \frac{1}{5}$ [∵ HCF of 3 and 15 is 3]

$(c)\ \frac{8}{50} = \frac{8 \div 2}{50 \div 2} = \frac{4}{25}$ [∵ HCF of 8 and 50 is 2]

$(d)\ \frac{16}{100} = \frac{16 \div 4}{100 \div 4} = \frac{4}{25}$ [∵ HCF of 16 and 100 is 4]

$(e)\ \frac{10}{60} = \frac{10 \div 10}{60 \div 10} = \frac{1}{6}$ [∵ HCF of 10 and 60 is 10]

$(f)\ \frac{15}{75} = \frac{15 \div 15}{75 \div 15} = \frac{1}{5}$ [∵ HCF of 15 and 75 is 15]

$(g)\ \frac{12}{60} = \frac{12 \div 12}{60 \div 12} = \frac{1}{5}$ [∵ HCF of 12 and 60 is 12]

$(h)\ \frac{16}{96} = \frac{16 \div 16}{96 \div 16} = \frac{1}{6}$ [∵ HCF of 16 and 96 is 16]

$(i)\ \frac{12}{75} = \frac{12 \div 3}{75 \div 3} = \frac{4}{25}$ [∵ HCF of 12 and 75 is 3]

$(j)\ \frac{12}{72} = \frac{12 \div 12}{72 \div 12} = \frac{1}{6}$ [∵ HCF of 12 and 72 is 12]

$(k)\ \frac{3}{18} = \frac{3 \div 3}{18 \div 3} = \frac{1}{6}$ [∵ HCF of 3 and 18 is 3]

$(l)\ \frac{4}{25} = \frac{4 \div 1}{25 \div 1} = \frac{4}{25}$ [∵ HCF of 4 and 25 is 1]

Q-7.

Find answers to the following. Write and indicate how you solved them:

(a) Is $\frac{5}{9}$ equal to $\frac{4}{5}$?

(b) Is $\frac{9}{16}$ equal to $\frac{5}{9}$?

Solution

a) 5/9 , 4/5

Convert these fractions into like fractions

$\frac{5}{9} = \frac{5}{9} \times \frac{5}{5} = \frac{25}{45}$

$\frac{4}{5} = \frac{4}{5} \times \frac{9}{9} = \frac{36}{45}$

$\therefore \frac{25}{45} \neq \frac{36}{45}$

Hence, $\frac{5}{9}$ is not equal to $\frac{4}{5}$

b) $\frac{9}{16}$, $\frac{5}{9}$

Convert into like fractions

$\frac{9}{16} = \frac{9}{16} \times \frac{9}{9} = \frac{81}{144}$

$\frac{5}{9} = \frac{5}{9} \times \frac{16}{16} = \frac{80}{144}$

$\therefore \frac{81}{144} \neq \frac{80}{144}$

Hence, $\frac{9}{16}$ is not equal to $\frac{5}{9}$

Q-8. Ila read 25 pages of a book containing 100 pages. Lalita read 2 / 5 of the same book. Who read less?

Solutions:

Total number of pages = 100 pages

Lalita read = 2 / 5 of 100

= 2/5 x 100 = 40 pages

Ila read = 25 pages

40 - 25 = 15

∴ Ila read 15 pages less than Lalita.

Q -10. **In a class A of 25 students, 20 passed with 60% or more marks; in another class B of 30 students, 24 passed with 60% or more marks. In which class was a greater fraction of students getting with 60% or more marks?**

Solutions:

Total number of students in Class A = 25
Students passed in first class in Class A = 20
Hence, fraction = 20/25= 4/5
Total number of students in Class B = 30
Students passed in first class in Class B = 24
Hence, fraction = 24 / 30= 4 / 5
∴ An equal fraction of students passed in first class in both the classes.

Ex – 7.5

Q-2. Solve

$(a)\ \frac{1}{18}+\frac{1}{18}$ $(b)\ \frac{8}{15}+\frac{3}{15}$

$(c)\ \frac{7}{7}-\frac{5}{7}$ $(d)\ \frac{1}{22}+\frac{21}{22}$

$(e)\ \frac{12}{15}-\frac{7}{15}$ $(f)\ \frac{5}{8}+\frac{3}{8}$

$(g)\ 1-\frac{2}{3}\left(1=\frac{3}{3}\right)$ $(h)\ \frac{1}{4}+\frac{0}{4}$

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

Solution

$(a)\ \frac{1}{18}+\frac{1}{18}=\frac{1+1}{18}=\frac{2}{18}=\frac{2\div 2}{18\div 2}=\frac{1}{9}$

$(b)\ \frac{8}{15}+\frac{3}{15}=\frac{8+3}{15}=\frac{11}{15}$

$(c)\ \frac{7}{7}-\frac{5}{7}=\frac{7-5}{7}=\frac{2}{7}$

$(d)\ \frac{1}{22}+\frac{21}{22}=\frac{1+21}{22}=\frac{22}{22}=1$

$(e)\ \frac{12}{15}-\frac{7}{15}=\frac{12-7}{15}=\frac{5}{15}=\frac{5\div 5}{15\div 5}=\frac{1}{3}$

$(f)\ \frac{5}{8}+\frac{3}{8}=\frac{5+3}{8}=\frac{8}{8}=1$

$(g)\ 1-\frac{2}{3}\left(1=\frac{3}{3}\right)=\frac{3}{3}-\frac{2}{3}=\frac{3-2}{3}=\frac{1}{3}$

$(h)\ \frac{1}{4}+\frac{0}{4}=\frac{1+0}{4}=\frac{1}{4}$

$(i)\ 3-\frac{12}{5}=\frac{3}{1}-\frac{12}{5}=\frac{3\times 5-12\times 1}{5}=\frac{15-12}{5}=\frac{3}{5}$

Q-4. Fill in the missing fractions.

(a) $\frac{7}{10} - \square = \frac{3}{10}$ (b) $\square - \frac{3}{21} = \frac{5}{21}$

(c) $\square - \frac{3}{6} = \frac{3}{6}$ (d) $\square + \frac{5}{27} = \frac{12}{27}$

Solution

(a) The difference between $\frac{7}{10}$ and $\square$ is $\frac{3}{10}$.

$\therefore$ Missing fraction

$$= \frac{7}{10} - \frac{3}{10} = \frac{7-3}{10} = \frac{4}{10} = \frac{4 \div 2}{10 \div 2} = \frac{2}{5}$$

Thus, $\square = \frac{2}{5}$

(b) The difference between $\square$ and $\frac{3}{21}$ is $\frac{5}{21}$.

$\therefore$ Missing fraction $= \frac{5}{21} + \frac{3}{21} = \frac{5+3}{21} = \frac{8}{21}$

Thus, $\square = \frac{8}{21}$

(c) The difference between $\square$ and $\frac{3}{6}$ is $\frac{3}{6}$.

$\therefore$ Missing fraction $= \frac{3}{6} + \frac{3}{6} = \frac{3+3}{6} = \frac{6}{6} = 1$

Thus, $\square = 1$

(d) Sum of $\square$ and $\frac{5}{27}$ is $\frac{12}{27}$.

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

Solution:

Fraction of basket of oranges = 5/7

Fraction of basket as a whole can be taken as 1.

Fraction of basket of oranges left

$$= 1 - \frac{5}{7} = \frac{1}{1} - \frac{5}{7} = \frac{1 \times 7 - 1 \times 5}{7}$$

$$= \frac{7-5}{7} = \frac{2}{7}$$

Thus, the required fraction = 2/7 .

Home Assignment :

Exercise – 7.4 Q.7 (c) ,(d) and Q .9

Exercise – 7.5 Q.1 and Q.3