



ST. MARY'S CO-ED SCHOOL, HARDA

[2020-21]

CLASS- VI

SUBJECT- MATHS

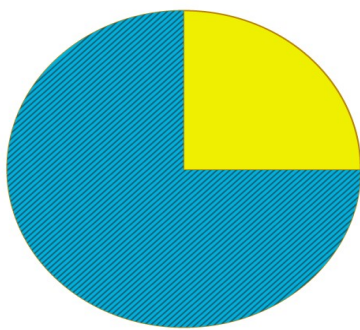
CHAPTER- 5

FRACTIONS

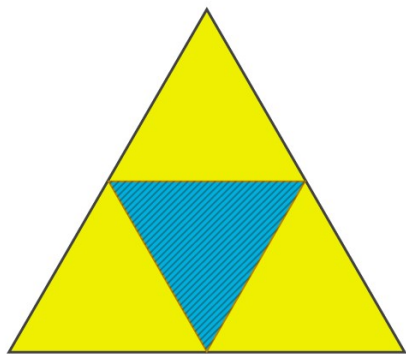
EXERCISE - 5A

1. Write the fraction representing the shaded portion:

(i)



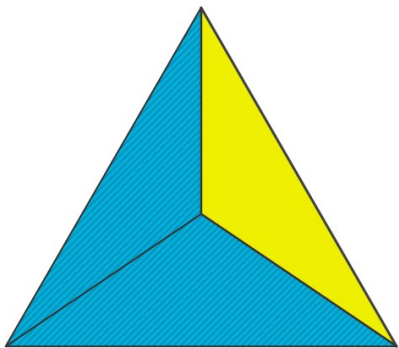
(ii)



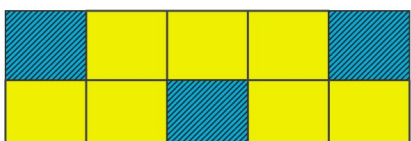
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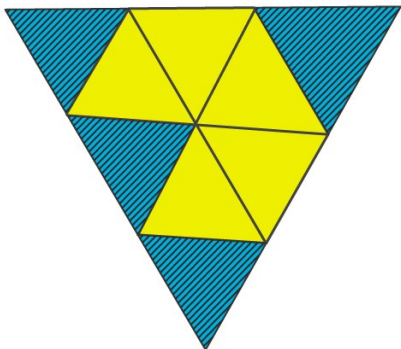


(iv)

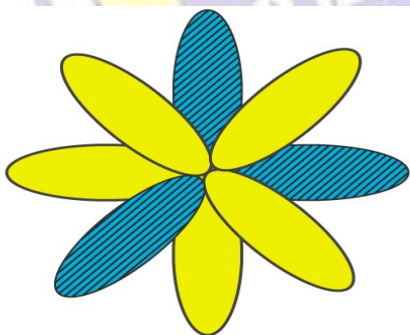


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(v)



(vi)



Solutions

(i) Total parts = 4

Shaded region = 3

Hence, the shaded portion of the region is 3 parts of the whole figure

$\therefore 3 / 4$

(ii) Total parts = 4

Shaded region = 1

Hence, the shaded portion of the region is 1 part of the whole figure

$\therefore 1 / 4$

(iii) Total parts = 3

Shaded region = 2

Hence, the shaded portion of the region is 2 parts of the whole figure

$\therefore 2 / 3$

(iv) Total parts = 10

Shaded region = 3

Hence, the shaded portion of the region is 3 parts of the whole figure

$\therefore 3 / 10$

(v) Total parts = 9

Shaded region = 4

Hence, the shaded portion of the region is 4 parts of the whole figure

$\therefore 4 / 9$

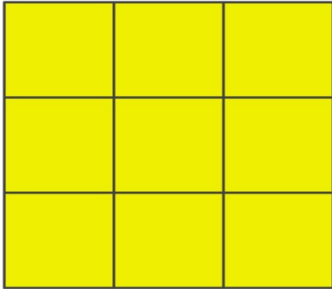
(vi) Total parts = 8

Shaded region = 3

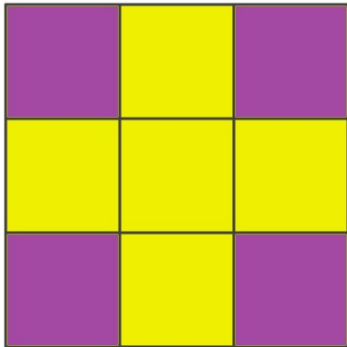
Hence, the shaded portion of the region is 3 parts of the whole figure

$\therefore 3 / 8$

2. Shade $\frac{4}{9}$ on the given figure.



Solution



$\therefore$ Above figure represents the shaded region $\frac{4}{9}$ of the whole figure

3. In the given figure, if we say that the shaded region is $\frac{1}{4}$, then identify the error in it.



Solution

4. Write a fraction for each of the following:

(i) Three- fourths

(ii) Four- sevenths

- (iii) Two – fifths
- (iv) Three – tenths
- (v) One-eighth
- (vi) Five- sixths
- (vii) Eight- ninths
- (viii) Seven-twelfths

Solution

- (i) The fraction for three – fourths is $3 / 4$
- (ii) The fraction for four – sevenths is $4 / 7$
- (iii) The fraction for two – fifths is $2 / 5$
- (iv) The fraction for three – tenths is $3 / 10$
- (v) The fraction for one- eighth is $1 / 8$
- (vi) The fraction for five – sixths is $5 / 6$
- (vii) The fraction for eight – ninths is $8 / 9$
- (viii) The fraction for seven – twelfths is $7 / 12$

5. Write down the numerator and the denominator of each of the fractions given below:

- (i) $4 / 9$ (ii) $6 / 11$ (iii) $8 / 15$ (iv) $12 / 17$ (v) $5 / 1$

Solutions

- (i) $4 / 9$

Numerator of $4 / 9$ is 4

Denominator of $4 / 9$ is 9

- (ii) $6 / 11$

Numerator of $6 / 11$ is 6

Denominator of $6 / 11$ is 11

- (iii) $8 / 15$

Numerator of $8 / 15$ is 8

Denominator of $8 / 15$ is 15

(iv) $12 / 17$

Numerator of $12 / 17$ is 12

Denominator of $12 / 17$ is 17

(v) $5 / 1$

Numerator of $5 / 1$ is 5

Denominator of $5 / 1$ is 1

6. Write down the fraction in which

(i) numerator = 3, denominator = 8

(ii) numerator = 5, denominator = 12

(iii) numerator = 7, denominator = 16

(iv) numerator = 8, denominator = 15

Solutions

(i) Fraction of numerator = 3, denominator = 8 is $3 / 8$

(ii) Fraction of numerator = 5, denominator = 12 is $5 / 12$

(iii) Fraction of numerator = 7, denominator = 16 is $7 / 16$

(iv) Fraction of numerator = 8, denominator = 15 is $8 / 15$

The shaded region is not equal to $1 / 4$ since the above figure does not have equal parts.

EXERCISE -5B

1. Which of the following are proper fractions?

$1 / 2$, $3 / 5$, $10 / 7$, $7 / 4$, 2, $15 / 8$, $16 / 16$, $10 / 11$, $23 / 10$

Solution

A fraction whose numerator is less than its denominator is called a proper fraction

Here,

$1 / 2$, $3 / 5$ and $10 / 11$ are proper fractions

2. Which of the following are improper fractions?

$3/2, 5/6, 9/4, 8/8, 3, 27/16, 23/31, 19/18, 10/13, 26/26$

Solution

A fraction whose numerator is greater than or equal to its denominator is called an improper fraction

Here,

$3/2, 9/4, 8/8, 3, 27/16, 19/18$ and $26/26$ are improper fractions.

3. Write six improper fractions with denominator 5

Solution

$6/5, 7/5, 8/5, 9/5, 11/5, 12/5$ are improper fractions with denominator 5

4. Write six improper fractions with numerator 13

Solution

$13/2, 13/3, 13/4, 13/5, 13/6, 13/7$ are improper fractions with numerator 13

5. Convert the following into an improper fraction.

(i) $5\frac{5}{7}$

(ii) $9\frac{3}{8}$

(iii) $6\frac{3}{10}$

(iv) $3\frac{5}{11}$

SOLUTION

(i) $5\frac{5}{7} = 5 + \frac{5}{7} = \frac{5 \times 7 + 5}{7} = \frac{35 + 5}{7} = \frac{40}{7}$

(ii) $9\frac{3}{8} = 9 + \frac{3}{8} = \frac{9 \times 8 + 3}{8} = \frac{72 + 3}{8} = \frac{75}{8}$

(iii) $6\frac{3}{10} = 6 + \frac{3}{10} = \frac{6 \times 10 + 3}{10} = \frac{60 + 3}{10} = \frac{63}{10}$

(iv) $3\frac{5}{11} = 3 + \frac{5}{11} = \frac{3 \times 11 + 5}{11} = \frac{33 + 5}{11} = \frac{38}{11}$

6.

Convert each of the following into a mixed fraction :

(i) $\frac{17}{5}$

(ii) $\frac{62}{7}$

(iii) $\frac{101}{8}$

(iv) $\frac{95}{13}$

(v) $\frac{81}{11}$

(vi) $\frac{87}{16}$

(vii) $\frac{103}{12}$

(viii) $\frac{117}{20}$

SOLUTIONS:

(i) $\frac{17}{5} = 3 + \frac{2}{5} = 3\frac{2}{5}$.

$$\begin{array}{r} 5 \overline{) 17} \quad (3 \\ \underline{15} \\ 2 \end{array}$$

(ii) $\frac{62}{7} = 8 + \frac{6}{7} = 8\frac{6}{7}$.

$$\begin{array}{r} 7 \overline{) 62} \quad (8 \\ \underline{56} \\ 6 \end{array}$$

(iii) $\frac{101}{8} = 12 + \frac{5}{8} = 12\frac{5}{8}$.

$$\begin{array}{r} 8 \overline{) 101} \quad (12 \\ \underline{8} \\ 21 \\ \underline{16} \\ 5 \end{array}$$

$$(iv) \frac{95}{13} = 7 + \frac{4}{13} = 7\frac{4}{13}.$$

$$\begin{array}{r} 13 \overline{) 95} \quad (7 \\ \underline{91} \\ 4 \end{array}$$

$$(v) \frac{81}{11} = 7 + \frac{4}{11} = 7\frac{4}{11}.$$

$$\begin{array}{r} 11 \overline{) 81} \quad (7 \\ \underline{77} \\ 4 \end{array}$$

$$(vi) \frac{87}{16} = 5 + \frac{7}{16} = 5\frac{7}{16}.$$

$$\begin{array}{r} 16 \overline{) 87} \quad (5 \\ \underline{80} \\ 7 \end{array}$$

$$(vii) \frac{103}{12} = 8 + \frac{7}{12} = 8\frac{7}{12}.$$

$$\begin{array}{r} 12 \overline{) 103} \quad (8 \\ \underline{96} \\ 7 \end{array}$$

$$(viii) \frac{117}{20} = 5 + \frac{17}{20} = 5\frac{17}{20}.$$

$$\begin{array}{r} 20 \overline{) 117} \quad (5 \\ \underline{100} \\ 17 \end{array}$$



EXERCISE - 5C

1. Write five fractions equivalent to each of the following:

(i) $\frac{2}{3}$

(ii) $\frac{4}{5}$

(iii) $\frac{5}{8}$

(iv) $\frac{7}{10}$

(v) $\frac{3}{7}$

(vi) $\frac{6}{11}$

(vii) $\frac{7}{9}$

(viii) $\frac{5}{12}$

Solution

(i) $\frac{2}{3}$

$$\frac{2}{3} = (\frac{2}{3} \times \frac{2}{2}) = (\frac{2}{3} \times \frac{3}{3}) = (\frac{2}{3} \times \frac{4}{4}) = (\frac{2}{3} \times \frac{5}{5}) = (\frac{2}{3} \times \frac{6}{6})$$

$$\therefore \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15} = \frac{12}{18}$$

The fractions are $\frac{4}{6}$, $\frac{6}{9}$, $\frac{8}{12}$, $\frac{10}{15}$ and $\frac{12}{18}$

Hence, the five fractions equivalent to $\frac{2}{3}$ are $\frac{4}{6}$, $\frac{6}{9}$, $\frac{8}{12}$, $\frac{10}{15}$ and $\frac{12}{18}$

(ii) $\frac{4}{5}$

$$\frac{4}{5} = (\frac{4}{5} \times \frac{2}{2}) = (\frac{4}{5} \times \frac{3}{3}) = (\frac{4}{5} \times \frac{4}{4}) = (\frac{4}{5} \times \frac{5}{5}) = (\frac{4}{5} \times \frac{6}{6})$$

$$\therefore \frac{4}{5} = \frac{8}{10} = \frac{12}{15} = \frac{16}{20} = \frac{20}{25} = \frac{24}{30}$$

The five fractions are $\frac{8}{10}$, $\frac{12}{15}$, $\frac{16}{20}$, $\frac{20}{25}$ and $\frac{24}{30}$

Hence, the five fractions equivalent to $\frac{4}{5}$ are $\frac{8}{10}$, $\frac{12}{15}$, $\frac{16}{20}$, $\frac{20}{25}$ and $\frac{24}{30}$

(iii) $\frac{5}{8}$

$$\frac{5}{8} = (\frac{5}{8} \times \frac{2}{2}) = (\frac{5}{8} \times \frac{3}{3}) = (\frac{5}{8} \times \frac{4}{4}) = (\frac{5}{8} \times \frac{5}{5}) = (\frac{5}{8} \times \frac{6}{6})$$

$$\therefore \frac{5}{8} = \frac{10}{16} = \frac{15}{24} = \frac{20}{32} = \frac{25}{40} = \frac{30}{48}$$

The five fractions are $\frac{10}{16}$, $\frac{15}{24}$, $\frac{20}{32}$, $\frac{25}{40}$ and $\frac{30}{48}$

Hence, the five fractions equivalent to $\frac{5}{8}$ are $\frac{10}{16}$, $\frac{15}{24}$, $\frac{20}{32}$, $\frac{25}{40}$ and $\frac{30}{48}$

(iv) $\frac{7}{10}$

$$\frac{7}{10} = (\frac{7}{10} \times \frac{2}{2}) = (\frac{7}{10} \times \frac{3}{3}) = (\frac{7}{10} \times \frac{4}{4}) = (\frac{7}{10} \times \frac{5}{5}) = (\frac{7}{10} \times \frac{6}{6})$$

$$\therefore \frac{7}{10} = \frac{14}{20} = \frac{21}{30} = \frac{28}{40} = \frac{35}{50} = \frac{42}{60}$$

The five fractions are $\frac{14}{20}$, $\frac{21}{30}$, $\frac{28}{40}$, $\frac{35}{50}$ and $\frac{42}{60}$

Hence, the five fractions equivalent to $\frac{7}{10}$ are $\frac{14}{20}$, $\frac{21}{30}$, $\frac{28}{40}$, $\frac{35}{50}$ and $\frac{42}{60}$

(v) $\frac{3}{7}$

$$\frac{3}{7} = (\frac{3}{7} \times \frac{2}{2}) = (\frac{3}{7} \times \frac{3}{3}) = (\frac{3}{7} \times \frac{4}{4}) = (\frac{3}{7} \times \frac{5}{5}) = (\frac{3}{7} \times \frac{6}{6})$$

$$\therefore \frac{3}{7} = \frac{6}{14} = \frac{9}{21} = \frac{12}{28} = \frac{15}{35} = \frac{18}{42}$$

The five fractions are $\frac{6}{14}$, $\frac{9}{21}$, $\frac{12}{28}$, $\frac{15}{35}$ and $\frac{18}{42}$

Hence, the five fractions equivalent to $\frac{3}{7}$ are $\frac{6}{14}$, $\frac{9}{21}$, $\frac{12}{28}$, $\frac{15}{35}$ and $\frac{18}{42}$

(vi) $\frac{6}{11}$

$$\frac{6}{11} = (\frac{6}{11} \times \frac{2}{2}) = (\frac{6}{11} \times \frac{3}{3}) = (\frac{6}{11} \times \frac{4}{4}) = (\frac{6}{11} \times \frac{5}{5}) = (\frac{6}{11} \times \frac{6}{6})$$

$$\therefore \frac{6}{11} = \frac{12}{22} = \frac{18}{33} = \frac{24}{44} = \frac{30}{55} = \frac{36}{66}$$

The five fractions are $\frac{12}{22}$, $\frac{18}{33}$, $\frac{24}{44}$, $\frac{30}{55}$ and $\frac{36}{66}$

Hence, the five fractions equivalent to $\frac{6}{11}$ are $\frac{12}{22}$, $\frac{18}{33}$, $\frac{24}{44}$, $\frac{30}{55}$ and $\frac{36}{66}$

(vii) $\frac{7}{9}$

$$\frac{7}{9} = (\frac{7}{9} \times \frac{2}{2}) = (\frac{7}{9} \times \frac{3}{3}) = (\frac{7}{9} \times \frac{4}{4}) = (\frac{7}{9} \times \frac{5}{5}) = (\frac{7}{9} \times \frac{6}{6})$$

$$\therefore \frac{7}{9} = \frac{14}{18} = \frac{21}{27} = \frac{28}{36} = \frac{35}{45} = \frac{42}{54}$$

The five fractions are $\frac{14}{18}$, $\frac{21}{27}$, $\frac{28}{36}$, $\frac{35}{45}$ and $\frac{42}{54}$

Hence, the five fractions equivalent to $\frac{7}{9}$ are $\frac{14}{18}$, $\frac{21}{27}$, $\frac{28}{36}$, $\frac{35}{45}$ and $\frac{42}{54}$

(viii) $\frac{5}{12}$

$$\frac{5}{12} = (\frac{5}{12} \times \frac{2}{2}) = (\frac{5}{12} \times \frac{3}{3}) = (\frac{5}{12} \times \frac{4}{4}) = (\frac{5}{12} \times \frac{5}{5}) = (\frac{5}{12} \times \frac{6}{6})$$

$$\therefore \frac{5}{12} = \frac{10}{24} = \frac{15}{36} = \frac{20}{48} = \frac{25}{60} = \frac{30}{72}$$

The five fractions equivalent to $\frac{5}{12}$ are $\frac{10}{24}$, $\frac{15}{36}$, $\frac{20}{48}$, $\frac{25}{60}$ and $\frac{30}{72}$

2. Which of the following are the pairs of equivalent fractions?

(i) $\frac{5}{6}$ and $\frac{20}{24}$

(ii) $\frac{3}{8}$ and $\frac{15}{40}$

(iii) $4/7$ and $16/21$

(iv) $2/9$ and $14/63$

(v) $1/3$ and $9/24$

(vi) $2/3$ and $33/22$

Solutions

(i) $5/6$ and $20/24$

Given fractions are $5/6$ and $20/24$

By cross multiplication we get

$$(5 \times 24) = 120$$

$$(6 \times 20) = 120$$

$$\text{Now } (5 \times 24) = (6 \times 20) = 120$$

Hence, $5/6$ and $20/24$ are the pairs of equivalent fractions

(ii) $3/8$ and $15/40$

Given fractions are $3/8$ and $15/40$

By cross multiplication we get

$$(3 \times 40) = 120$$

$$(8 \times 15) = 120$$

$$\text{Now } (3 \times 40) = (8 \times 15) = 120$$

Hence, $3/8$ and $15/40$ are the pairs of equivalent fractions

(iii) $4/7$ and $16/21$

Given fractions are $4/7$ and $16/21$

By cross multiplication we get

$$(4 \times 21) = 84$$

$$(7 \times 16) = 112$$

$$\text{Now } (4 \times 21) \neq (7 \times 16)$$

Hence, $4/7$ and $16/21$ are not the pairs of equivalent fractions

(iv) $2/9$ and $14/63$

Given fractions are $2/9$ and $14/63$

By cross multiplication we get

$$(2 \times 63) = 126$$

$$(9 \times 14) = 126$$

$$\text{Now } (2 \times 63) = (9 \times 14) = 126$$

Hence, $2/9$ and $14/63$ are the pairs of equivalent fractions

(v) $1/3$ and $9/24$

Given fractions are $1/3$ and $9/24$

By cross multiplication we get

$$(1 \times 24) = 24$$

$$(3 \times 9) = 27$$

$$\text{Now } (1 \times 24) \neq (3 \times 9)$$

Hence, $1/3$ and $9/24$ are not the pairs of equivalent fractions

(vi) $2/3$ and $33/22$

Given fractions are $2/3$ and $33/22$

By cross multiplication we get

$$(2 \times 22) = 44$$

$$(3 \times 33) = 99$$

$$\text{Now } (2 \times 22) \neq (3 \times 33)$$

Hence, $2/3$ and $33/22$ are not the pairs of equivalent fractions

3. Find the equivalent fraction of $3/5$ having

(i) denominator 30 (ii) numerator 24

Solution

$$(i) \text{ Let } 3/5 = \square / 30$$

$$\text{Clearly shows } 30 = (5 \times 6)$$

Now multiply the numerator by 6 also

$$\therefore 3/5 = (3 \times 6) / (5 \times 6) = 18/30$$

Hence, $18 / 30$ is the equivalent fraction of $3 / 5$ having denominator 30

(ii) Let $3 / 5 = 24 / \square$

Clearly shows $24 = (3 \times 8)$

Now multiply the denominator by 8 also

$$\therefore 3 / 5 = (3 \times 8) / (5 \times 8) = 24 / 40$$

Hence, $24 / 40$ is the equivalent fraction of $3 / 5$ having numerator 24

4. Find the equivalent fraction of $5 / 9$ having

(i) denominator 54 (ii) numerator 35

Solution

(i) Let $5 / 9 = \square / 54$

Clearly shows $54 = (9 \times 6)$

Now multiply the numerator by 6 also

$$\therefore 5 / 9 = (5 \times 6) / (9 \times 6) = 30 / 54$$

Hence, $30 / 54$ is the equivalent fraction of $5 / 9$ having denominator 54

(ii) Let $5 / 9 = 35 / \square$

Clearly shows $35 = (5 \times 7)$

Now multiply the denominator by 7 also

$$\therefore 5 / 9 = (5 \times 7) / (9 \times 7) = 35 / 63$$

Hence, $35 / 63$ is the equivalent fraction of $5 / 9$ having numerator 35

5. Find the equivalent fraction of $6 / 11$ having

(i) denominator 77 (ii) numerator 60

Solution

(i) Let $6 / 11 = \square / 77$

Clearly shows $77 = (11 \times 7)$

Now multiply the numerator by 7 also

$$\therefore 6 / 11 = (6 \times 7) / (11 \times 7) = 42 / 77$$

Hence, $42 / 77$ is the equivalent fraction of $6 / 11$ having denominator 77

(ii) Let $6 / 11 = 60 / \square$

Clearly shows $60 = (6 \times 10)$

Now multiply the denominator by 10 also

$$\therefore 6 / 11 = (6 \times 10) / (11 \times 10) = 60 / 110$$

Hence, $60 / 110$ is the equivalent fraction of $6 / 11$ having numerator 60

EXERCISE - 5D

1. Define like and unlike fractions and give five examples of each.

Solution

Like fractions - Fractions having the same denominator are called 'Like fractions'

The five examples of like fractions are

$$2 / 7, 3 / 7, 4 / 7, 5 / 7 \text{ and } 6 / 7$$

Unlike fractions - Fractions having different denominators are called 'Unlike fractions'

The five examples of unlike fractions are

$$2 / 6, 4 / 7, 5 / 9, 6 / 8, 9 / 6$$

2. Convert $3 / 5, 7 / 10, 8 / 15$ and $11 / 30$ into like fractions

Solution

Given fractions are $3 / 5, 7 / 10, 8 / 15$ and $11 / 30$

5	5	10	15	30
2	1	2	3	6
3	1	1	3	3
1	1	1	1	1

$$\text{LCM of } 5, 10, 15 \text{ and } 30 = (5 \times 3 \times 2) = 30$$

Converting each of the given fractions into an equivalent fraction with denominator as 30

We get

$$(3 \times 6) / (5 \times 6) = 18 / 30$$

$$(7 \times 3) / (10 \times 3) = 21 / 30$$

$$(8 \times 2) / (15 \times 2) = 16 / 30$$

$$(11 \times 1) / (30 \times 1) = 11 / 30$$

$\therefore 18 / 30, 21 / 30, 16 / 30$ and $11 / 30$ are the required like fractions

3. Convert $1 / 4, 5 / 8, 7 / 12$ and $13 / 24$ into like fractions

Solution

Given fractions are $1 / 4, 5 / 8, 7 / 12$ and $13 / 24$

24	8	12	24
2	4	6	12
2	2	3	6
3	1	3	3
1	1	1	1

$$\text{LCM of } 4, 8, 12, 24 = (2 \times 2 \times 2 \times 3) = 24$$

Converting each of the given fractions into an equivalent fraction with denominator as 24

We get

$$(1 \times 6) / (4 \times 6) = 6 / 24$$

$$(5 \times 3) / (8 \times 3) = 15 / 24$$

$$(7 \times 2) / (12 \times 2) = 14 / 24$$

$$(13 \times 1) / (24 \times 1) = 13 / 24$$

$\therefore 6 / 24, 15 / 24, 14 / 24$ and $13 / 24$ are the required like fractions

4. Fill in the place holders with the correct symbol $>$ or $<$:

(i) $8 / 9 \square 5 / 9$

(ii) $9 / 10 \square 7 / 10$

(iii) $3 / 7 \square 6 / 7$

(iv) $11 / 15 \square 8 / 15$

(v) $6 / 11 \square 5 / 11$

(vi) $11 / 20 \square 17 / 20$

Solutions

(i) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $8/9 > 5/9$

(ii) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $9/10 > 7/10$

(iii) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $3/7 < 6/7$

(iv) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $11/15 > 8/15$

(v) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $6/11 > 5/11$

(vi) Since among the two fractions with the same denominator, the one with the greater numerator is the greater of the two

Hence, $11/20 < 17/20$

5. Fill in the place holders with the correct symbol $>$ or $<$:

(i) $3/4 \square 3/5$

(ii) $7/8 \square 7/10$

(iii) $4/11 \square 4/9$

(iv) $8/11 \square 8/13$

(v) $5/12 \square 5/8$

(vi) $11/4 \square 11/15$

Solutions

(i) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence $3/4 > 3/5$

(ii) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence, $7/8 > 7/10$

(iii) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence, $4/11 < 4/9$

(iv) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence, $8/11 > 8/13$

(v) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence, $5/12 < 5/8$

(vi) Since among two fractions with same numerator, the one with the smaller denominator is the

greater of the two

Hence, $11/4 > 11/15$

Compare the fractions given below:

6. $4/5, 5/7$

Solution

Given fractions are $4/5$ and $5/7$

5	5	7
7	1	7
1		1

LCM of 5 and 7 = $(5 \times 7) = 35$

Now convert each one of $4/5$ and $5/7$ into an equivalent fraction having 35 as denominator

$$4/5 = (4 \times 7) / (5 \times 7) = 28/35$$

$$5/7 = (5 \times 5) / (7 \times 5) = 25/35$$

Clearly it shows $28/35 > 25/35$

Hence, $4/5 > 5/7$

7. $3/8, 5/6$

Solution

Given fractions are $3/8$ and $5/6$

2	8	6
2	4	3
2	2	3
3	1	3
1		1

LCM of 8 and 6 = $(2 \times 2 \times 2 \times 3) = 24$

Now convert each one of $3/8$ and $5/6$ into an equivalent fraction having 24 as denominator

$$3/8 = (3 \times 3) / (8 \times 3) = 9/24$$

$$5/6 = (5 \times 4) / (6 \times 4) = 20/24$$

Clearly it shows $9/24 < 20/24$

Hence, $3/8 < 5/6$

8. $7/11, 6/7$

Solution

Given fractions are $7/11$ and $6/7$

11	11	7
7	1	7
1		1

LCM of 11 and 7 = $(11 \times 7) = 77$

Now convert each one of $7/11$ and $6/7$ into an equivalent fraction having 77 as denominator

$$7/11 = (7 \times 7) / (11 \times 7) = 49/77$$

$$6/7 = (6 \times 11) / (7 \times 11) = 66/77$$

Clearly it shows $49/77 < 66/77$

Hence, $7/11 < 6/7$

9. $5/6, 9/11$

Solution

Given fractions are $5/6$ and $9/11$

11	11	6
6	1	6
1		1

LCM of 11 and 6 = $(11 \times 6) = 66$

Now convert each one of $5/6$ and $9/11$ into an equivalent fraction having 66 as denominator

$$5/6 = (5 \times 11) / (6 \times 11) = 55/66$$

$$9/11 = (9 \times 6) / (11 \times 6) = 54/66$$

Clearly it shows $55/66 > 54/66$

Hence, $5/6 > 9/11$

10. $2/3, 4/9$

Solution

Given fractions are $2/3$ and $4/9$

3	3	9
3	1	3
1		1

LCM of 3 and 9 = $(3 \times 3) = 9$

Now convert each one of $2/3$ and $4/9$ into an equivalent fraction having 9 as denominator

$$2/3 = (2 \times 3) / (3 \times 3) = 6/9$$

$$4/9 = (4 \times 1) / (9 \times 1) = 4/9$$

Clearly it shows $6/9 > 4/9$

Hence, $2/3 > 4/9$

Q.29 Rafiq exercised for $2/3$ hour, while Rohit exercised for $3/4$ hour. Who exercised for a long time ?

SOLUTION -

Rafiq exercised for $2/3$ hour

Rohit exercised for $3/4$ hour

L.C.M of 3 and 4 = 12

$$\text{Therefore } \frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$$

$$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

$$\frac{8}{12} < \frac{9}{12}$$

$$\text{Therefore, } \frac{2}{3} < \frac{3}{4}$$

Rafiq exercised for longer time.

Q.30 In a school, 20 students out of 25 passed in VI A, while 24 out of 30 passed in VI B.

Which section gave better result?

SOLUTION -

In a school, 20 students out of 25 passed in VI A

$$\text{Therefore } \frac{20}{25} = \frac{4}{5} \text{ of total students passed in VI A}$$

while 24 out of 30 passed in VI B

$$\text{Therefore } \frac{24}{30} = \frac{4}{5} \text{ of total students passed in VI B}$$

Both fractions are equal. Hence both sections are of equal standard.