Mathematics

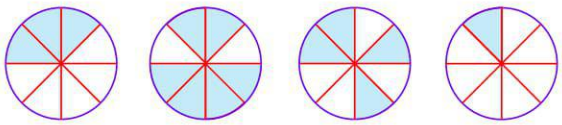
(www.tiwariacademy.com)
(Chapter – 7) (Fractions)
(Class – VI)

Exercise 7.4

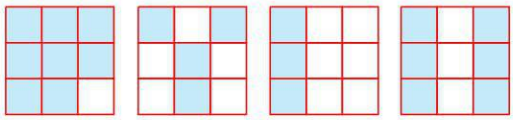
Question 1:

Write shaded portion as fraction. Arrange them in ascending and descending order using correct sign '<', '>', '=' between the fractions:

(a)



(b)



(c) Show $\frac{2}{6},\frac{4}{6},\frac{8}{6}$ and $\frac{6}{6}$ on the number line. Put appropriate signs between the fractions given:

$\frac{5}{6}\square\frac{2}{6}$, $\frac{3}{6}\square 0$, $\frac{1}{6}\square\frac{6}{6}$, $\frac{8}{6}\square\frac{5}{6}$

Answer 1:

(a) $\frac{3}{8},\frac{6}{8},\frac{4}{8},\frac{1}{8}$

Ascending order: $\frac{1}{8}<\frac{3}{8}<\frac{4}{8}<\frac{6}{8}$

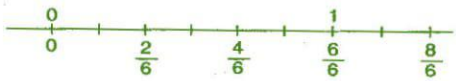
Descending order: $\frac{6}{8}>\frac{4}{8}>\frac{3}{8}>\frac{1}{8}$

(b) $\frac{8}{9},\frac{4}{9},\frac{3}{9},\frac{6}{9}$

Ascending order: $\frac{3}{9}<\frac{4}{9}<\frac{6}{9}<\frac{8}{9}$

Descending order: $\frac{8}{9}>\frac{6}{9}>\frac{4}{9}>\frac{3}{9}$

(c) Number line



$\frac{5}{6}\boxed{>}\frac{2}{6}$ $\frac{1}{6}\boxed{<}\frac{6}{6}$ $\frac{3}{6}\boxed{>}\frac{0}{6}$ $\frac{8}{6}\boxed{>}\frac{5}{6}$

Question 2:

Compare the fractions and put an appropriate sign:

(a) $\frac{3}{6}\square\frac{5}{6}$ (b) $\frac{1}{7}\square\frac{1}{4}$ (c) $\frac{4}{5}\square\frac{5}{5}$ (d) $\frac{3}{5}\square\frac{3}{7}$

Answer 2:

(a) $\frac{3}{6}\boxed{<}\frac{5}{6}$ (b) $\frac{1}{7}\boxed{<}\frac{1}{4}$ (c) $\frac{4}{5}\boxed{<}\frac{5}{5}$ (d) $\frac{3}{5}\boxed{>}\frac{3}{7}$

Question 3:

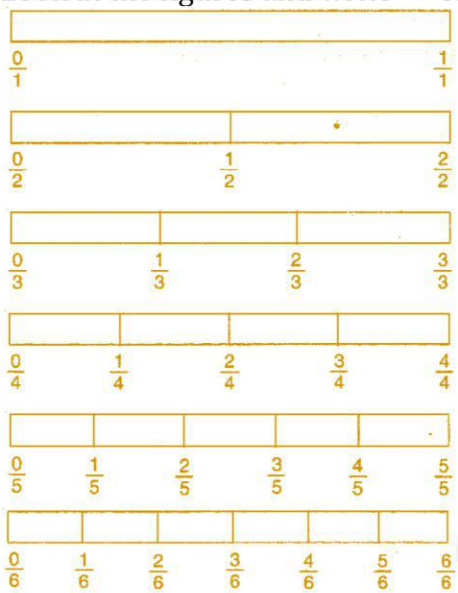
Make five more each pairs and put appropriate signs.

Answer 3:

(a) $\frac{9}{10} \boxed{>} \frac{6}{10}$ (b) $\frac{1}{3} \boxed{>} \frac{1}{6}$ (c) $\frac{1}{8} \boxed{<} \frac{1}{5}$ (d) $\frac{7}{8} \boxed{<} \frac{11}{8}$ (e) $\frac{11}{13} \boxed{>} \frac{9}{13}$

Question 4:

Look at the figures and write '<' or '>' between the given pairs of fractions:



(a) $\frac{1}{6} \square \frac{1}{3}$ (b) $\frac{3}{4} \square \frac{2}{6}$ (c) $\frac{2}{3} \square \frac{2}{4}$

(d) $\frac{6}{6} \square \frac{3}{3}$ (e) $\frac{5}{6} \square \frac{5}{5}$

Make five more such problems and solve them with your friends.

Answer 4:

(a) $\frac{1}{6} \boxed{<} \frac{1}{3}$ (b) $\frac{3}{4} \boxed{>} \frac{2}{6}$ (c) $\frac{2}{3} \boxed{>} \frac{2}{4}$

(d) $\frac{6}{6} \boxed{=} \frac{3}{3}$ (e) $\frac{5}{6} \boxed{<} \frac{5}{5}$

Five more such problems:

(a) $\frac{1}{2} \square \frac{3}{6}$ (b) $\frac{2}{3} \square \frac{3}{5}$ (c) $\frac{3}{4} \square \frac{4}{6}$

(d) $\frac{5}{6} \square \frac{2}{2}$ (e) $\frac{0}{1} \square \frac{0}{6}$

Solution:

(a) $\frac{1}{2} \boxed{=} \frac{3}{6}$ (b) $\frac{2}{3} \boxed{>} \frac{3}{5}$ (c) $\frac{3}{4} \boxed{>} \frac{4}{6}$

(d) $\frac{5}{6} \boxed{<} \frac{2}{2}$ (e) $\frac{0}{1} \boxed{=} \frac{0}{6}$

Question 5:

How quickly can you do this? Fill appropriate sign (<, =, >):

(a) $\frac{1}{2} \square \frac{1}{5}$ (b) $\frac{2}{4} \square \frac{3}{6}$ (c) $\frac{3}{5} \square \frac{2}{3}$

(d) $\frac{3}{4} \square \frac{2}{8}$ (e) $\frac{3}{5} \square \frac{6}{5}$ (f) $\frac{7}{9} \square \frac{3}{9}$

(g) $\frac{1}{4} \square \frac{2}{8}$ (h) $\frac{6}{10} \square \frac{4}{5}$ (i) $\frac{3}{4} \square \frac{7}{8}$

(j) $\frac{6}{10} \square \frac{4}{5}$ (k) $\frac{5}{7} \square \frac{15}{21}$

Answer 5:

(a) $\frac{1}{2} > \frac{1}{5}$ (b) $\frac{2}{4} = \frac{3}{6}$ (c) $\frac{3}{5} < \frac{2}{3}$

(d) $\frac{3}{4} > \frac{2}{8}$ (e) $\frac{3}{5} < \frac{6}{5}$ (f) $\frac{7}{9} > \frac{3}{9}$

(g) $\frac{1}{4} = \frac{2}{8}$ (h) $\frac{6}{10} < \frac{4}{5}$ (i) $\frac{3}{4} < \frac{7}{8}$

(j) $\frac{6}{10} < \frac{4}{5}$ (k) $\frac{5}{7} = \frac{15}{21}$

Question 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) $\frac{4}{25}$

Answer 6:

(a) $\frac{\cancel{2}}{\cancel{12}} = \frac{1}{6}$ (b) $\frac{\cancel{3}}{\cancel{15}} = \frac{1}{5}$ (c) $\frac{\cancel{8}}{\cancel{50}} = \frac{4}{25}$ (d) $\frac{\cancel{16}}{\cancel{100}} = \frac{4}{25}$

(e) $\frac{\cancel{10}}{\cancel{60}} = \frac{1}{6}$ (f) $\frac{\cancel{15}}{\cancel{75}} = \frac{1}{5}$ (g) $\frac{\cancel{12}}{\cancel{60}} = \frac{1}{5}$ (h) $\frac{\cancel{16}}{\cancel{96}} = \frac{1}{6}$

(i) $\frac{\cancel{12}}{\cancel{75}} = \frac{4}{25}$ (j) $\frac{\cancel{12}}{\cancel{72}} = \frac{1}{6}$ (k) $\frac{\cancel{3}}{\cancel{18}} = \frac{1}{6}$ (l) $\frac{4}{25} = \frac{4}{25}$

Equivalent groups:

I group: $\frac{1}{5}$ [(b), (f), (g)]

II group: $\frac{1}{6}$ [(a), (e), (h), (j), (k)]

III group: $\frac{4}{25}$ [(c), (d), (i), (l)]

Question 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 $\frac{5}{9}$?

(c) Is $\frac{4}{5}$ equal to $\frac{16}{20}$?

(d) Is $\frac{1}{15}$ equal to $\frac{4}{30}$?

Answer 7:

(a) $\frac{5}{9}$ and $\frac{4}{5}$

$\Rightarrow \quad \frac{5\times5}{9\times5}=\frac{25}{45}$ and $\frac{4\times9}{5\times9}=\frac{36}{45}$ [$\because$ L.C.M. of 9 and 5 is 45]

Since, $\frac{25}{45}\neq\frac{36}{45}$

Therefore, $\frac{5}{9}\neq\frac{4}{5}$

(b) $\frac{9}{16}$ and $\frac{5}{9}$

$\Rightarrow \quad \frac{9\times9}{16\times9}=\frac{81}{144}$ and $\frac{5\times16}{9\times16}=\frac{80}{144}$ [$\because$ L.C.M. of 16 and 9 is 144]

Since, $\frac{81}{144}\neq\frac{80}{144}$

Therefore, $\frac{9}{16}\neq\frac{5}{9}$

(c) $\frac{4}{5}$ and $\frac{16}{20}$

$\Rightarrow \quad \frac{4\times20}{5\times20}=\frac{80}{100}$ and $\frac{16\times5}{20\times5}=\frac{80}{100}$ [$\because$ L.C.M. of 5 and 20 is 100]

Since, $\frac{80}{100}=\frac{80}{100}$

Therefore, $\frac{4}{5}=\frac{16}{20}$

(d) $\frac{1}{15}$ and $\frac{4}{30}$

$\Rightarrow \quad \frac{1\times2}{15\times2}=\frac{2}{30}$ and $\frac{4\times1}{30\times1}=\frac{4}{30}$ [$\because$ L.C.M. of 15 and 30 is 30]

Since, $\frac{4}{30}=\frac{4}{30}$

Therefore, $\frac{1}{15}=\frac{4}{30}$

Question 8:

Ila read 25 pages of a book containing 100 pages. Lalita read $\frac{2}{5}$ of the same book. Who read less?

Answer 8:

Ila read 25 pages out of 100 pages.

Fraction of reading the pages = $\frac{25}{100} = \frac{1}{4}th$ part of book

Lalita read $\frac{2}{5}th$ part of book = $\frac{40}{100}$ pages

Since $\frac{1}{4} < \frac{2}{5}$

Therefore, Ila read less.

Question 9:

Rafiq exercised for $\frac{3}{6}$ of an hour, while Rohit exercised for $\frac{3}{4}$ of an hour. Who exercised for a longer time?

Answer 9:

Rafiq exercised $\frac{3}{6}$ of an hour.

Rohit exercised $\frac{3}{4}$ of an hour.

Since $\frac{3}{4} > \frac{3}{6}$

Therefore, Rohit exercised for a longer time.

Question 10:

In a class A of 25 students, 20 passed in first class; in another class B of 30 students, 24 passed in first class. In which class was a greater fraction of students getting first class?

Answer 10:

In class A, 20 passed out of 25, i.e., $\frac{20}{25} = \frac{4}{5}$

In class B, 24 passed out of 30, i.e., $\frac{24}{30} = \frac{4}{5}$

Hence, each class have same fraction of student getting first class.