Comparing and Ordering fractions

To compare fractions with same denominator (Like Fractions):-

The fraction having the greater numerator is the greater fraction.

For example:- $\dfrac{3}{4}$ $\boxed{<}$ $\dfrac{4}{4}$

To compare fractions with same numerator:-

The fraction having a smaller denominator is greater than the fraction having larger denominator.

For example:- $\dfrac{9}{7}$ $\boxed{<}$ $\dfrac{9}{4}$

Exercise-Self Practice 7E

1) Fill in the $\boxed{}$ **with < , = or > :-**

(a) $\dfrac{2}{7} \bigcirc \dfrac{3}{7}$ (b) $\dfrac{2}{3} \bigcirc \dfrac{1}{3}$ (c) $\dfrac{4}{15} \bigcirc \dfrac{11}{15}$ (d) $\dfrac{8}{17} \bigcirc \dfrac{7}{17}$

(e) $\dfrac{23}{45} \bigcirc \dfrac{26}{45}$ (f) $\dfrac{23}{33} \bigcirc \dfrac{18}{33}$ (g) $\dfrac{1}{3} \bigcirc \dfrac{1}{3}$ (h) $\dfrac{17}{19} \bigcirc \dfrac{17}{8}$

(i) $\dfrac{3}{13} \bigcirc \dfrac{3}{22}$ (j) $\dfrac{5}{32} \bigcirc \dfrac{5}{18}$ (k) $\dfrac{1}{15} \bigcirc \dfrac{1}{12}$ (l) $\dfrac{11}{13} \bigcirc \dfrac{11}{25}$

Solution 1:- (a) $\dfrac{2}{7}$ $\boxed{<}$ $\dfrac{3}{7}$ (c) $\dfrac{4}{15}$ $\boxed{<}$ $\dfrac{11}{15}$

(g) $\dfrac{1}{3}$ $\boxed{=}$ $\dfrac{9}{4}$ (h) $\dfrac{17}{19}$ $\boxed{<}$ $\dfrac{17}{8}$

(i) $\dfrac{3}{13}$ $\boxed{>}$ $\dfrac{3}{22}$ (k) $\dfrac{1}{15}$ $\boxed{<}$ $\dfrac{1}{12}$

In Q1. (b) , (d), (e) , (f), (j) and (l) are homework

2) Arrange the following fractions in ascending order :-

(a) $\dfrac{2}{9}$, $\dfrac{5}{9}$, $\dfrac{3}{9}$, $\dfrac{4}{9}$, $\dfrac{8}{9}$

Solution 2(a) :- $\frac{2}{9} < \frac{3}{9} < \frac{4}{9} < \frac{5}{9} < \frac{8}{9}$

$\boxed{\begin{array}{c} \underline{\textbf{Same Denominator}} \\ \text{Small Numerator} \rightarrow \text{Smaller} \\ \text{Big Numerator} \rightarrow \text{Bigger} \end{array}}$

∴ The fractions in ascending order are

$\frac{2}{9} , \frac{3}{9} , \frac{4}{9} , \frac{5}{9} , \frac{8}{9}$

(b) $\frac{10}{12} , \frac{10}{15} , \frac{10}{13} , \frac{10}{14} , \frac{10}{7}$

$\boxed{\begin{array}{c} \underline{\textbf{Same Numerator}} \\ \text{Small Denominator} \rightarrow \text{Bigger} \\ \text{Big Denominator} \rightarrow \text{Smaller} \end{array}}$

Solution 2(b) :- $\frac{10}{15} < \frac{10}{14} < \frac{10}{13} < \frac{10}{14} < \frac{10}{7}$

∴ The fractions in ascending order are $\frac{10}{15} , \frac{10}{14} , \frac{10}{13}, \frac{10}{14}, \frac{10}{7}$

Q3. <u>Arrange the following fractions in descending order:-</u>

(a) $\frac{4}{13} , \frac{2}{13} , \frac{7}{13} , \frac{1}{13} , \frac{9}{13}$

$\boxed{\begin{array}{c} \underline{\textbf{Same Denominator}} \\ \text{Small Numerator} \rightarrow \text{Smaller} \\ \text{Big Numerator} \rightarrow \text{Bigger} \end{array}}$

Solution 2(a) :- $\frac{9}{13} > \frac{7}{13} > \frac{4}{13} > \frac{2}{13} > \frac{1}{13}$

∴ The fractions in descending order are $\frac{9}{13} , \frac{7}{13} , \frac{4}{13} , \frac{2}{13}, \frac{1}{13}$

(b) $\frac{13}{8} , \frac{13}{15} , \frac{13}{6} , \frac{13}{25} , \frac{13.}{13}$

$\boxed{\begin{array}{c} \underline{\textbf{Same Numerator}} \\ \text{Small Denominator} \rightarrow \text{Bigger} \\ \text{Big Denominator} \rightarrow \text{Smaller} \end{array}}$

Solution 2(b) :- $\frac{13}{6} > \frac{13}{8} > \frac{13.}{13} > \frac{13}{15} > \frac{13}{25}$

∴ The fractions in descending order are $\frac{13}{6} , \frac{13}{8} , \frac{13.}{13}, \frac{13}{15}, \frac{13}{25}$

$\boxed{\begin{array}{c} \underline{\textbf{Topic}} \\ \textbf{Reducing a fraction to its lowest term (Page no-102) and Quick} \\ \textbf{Assessment (Page no-103) is omitted . It will not come in the exam.} \end{array}}$