Ch-9- FRACTIONS

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Ex 9(A)

1) Write 4 equivalent fractions of the following.

a) $\frac{1}{3} = \frac{2}{6}, \frac{3}{9}, \frac{4}{12}, \frac{5}{15}$

b) $\frac{4}{5} = \frac{8}{10}, \frac{12}{15}, \frac{16}{20}, \frac{20}{25}$

c) $\frac{1}{6} = \frac{2}{12}, \frac{3}{18}, \frac{4}{24}, \frac{5}{30}$

d) $\frac{2}{11} = \frac{4}{22}, \frac{6}{33}, \frac{8}{44}, \frac{10}{55}$

e) $\frac{4}{15} = \frac{8}{30}, \frac{12}{45}, \frac{16}{60}, \frac{20}{75}$

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2) Fill in the blanks.

a) $\frac{1}{5} = \frac{\boxed{4}}{20}$

b) $\frac{3}{4} = \frac{\boxed{18}}{24}$

c) $\frac{2}{3} = \frac{\boxed{16}}{24}$

d) $\frac{\boxed{2}}{14} = \frac{\boxed{1}}{7}$

e) $\frac{\boxed{6}}{7} = \frac{24}{28}$

f) $\frac{18}{\boxed{54}} = \frac{9}{27}$

g) $\frac{20}{31} = \frac{\boxed{60}}{93}$

h) $\frac{11}{\boxed{13}} = \frac{33}{99}$

i) $\frac{\boxed{35}}{40} = \frac{7}{8}$

j) $\frac{11}{15} = \frac{44}{\boxed{60}}$

k) $\frac{35}{56} = \frac{7}{\boxed{10}}$

l) $\frac{16}{24} = \frac{\boxed{4}}{6}$

m) $\frac{7}{11} = \frac{42}{\boxed{66}}$

n) $\frac{\boxed{11}}{12} = \frac{55}{60}$

o) $\frac{14}{15} = \frac{\boxed{98}}{105}$

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3) Reduce the following fractions to their lowest form:

a) $\frac{68}{136}$

Solution:

$$\frac{\cancel{68}^{34}}{\cancel{136}_{68}} = \frac{\cancel{34}^{17}}{\cancel{68}_{34}} \div \frac{\cancel{17}^{1}}{\cancel{34}_{2}} = \frac{1}{2}$$

b) $\frac{102}{119}$

Solution:

$$\frac{102 \div 17}{119 \div 17} = \frac{6}{7}$$

c) $\frac{153}{204}$

Solution:

$$\frac{153}{204} = \frac{51}{68} = \frac{3}{4}$$

d) $\frac{129}{243}$

Solution:

$$\frac{129}{243} = \frac{43}{81}$$

$$\frac{129 \div 3}{243 \div 3} = \frac{43}{81}$$

e) $\frac{154}{238}$

Solution:

$$\frac{154}{238} = \frac{77}{119} = \frac{11}{17}$$

f) $\frac{198}{297}$:

Solution:

$$\frac{198 \div 9}{297 \div 9} = \frac{22 \div 11}{33 \div 11} = \frac{11}{17}$$

g) $\frac{117}{189}$

Solution:

$$\frac{117 \div 9}{189 \div 9} = \frac{13}{21}$$

h) $\frac{304}{368}$

Solution:

$$\frac{304 \div 4}{36 \div 4} = \frac{76 \div 4}{92 \div 4} = \frac{19}{23}$$

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i) $\frac{115}{345}$

Solution:

$$\frac{115 \div 5}{345 \div 5} = \frac{23 \div 3}{69 \div 3} = \frac{7 \div 7}{23 \div 7} = \frac{1}{3}$$

j) $\frac{160}{720}$

Solution:

$$\frac{160 \div 2}{720 \div 2} = \frac{80 \div 2}{360 \div 2} = \frac{40 \div 5}{180 \div 5} = \frac{8 \div 2}{36 \div 2} =$$

$$\frac{4 \div 2}{18 \div 2} = \frac{2}{9}$$

4) Tick (✓) the Fractions which are proper Fractions:

a) $\frac{13}{16}$ = ✓

b) $\frac{8}{7} = X$

c) $\frac{17}{8} = X$

d) $\frac{23}{25} = \checkmark$

e) $\frac{38}{4} = X$

f) $\frac{48}{50} = \checkmark$

g) $\frac{25}{21} = X$

h) $\frac{1}{7} = \checkmark$

i) $\frac{45}{9} = X$

j) $\frac{63}{65} = \checkmark$

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5) Convert the following improper fractions into mixed numbers:

a) $\frac{21}{6} = \frac{Q\,R}{D} = 3\frac{3}{6}$

$$\begin{array}{r|l} & 3 \\ 6 & 21 \\ & -18 \\ \hline & 3 \end{array}$$

b) $\frac{112}{6} = \frac{Q\,R}{D} = 18\frac{4}{6}$

$$\begin{array}{r|l} & 18 \\ 6 & 112 \\ & -6 \\ \hline & 52 \\ & -48 \\ \hline & 4 \end{array}$$

c) $\frac{123}{6} = \frac{Q\,R}{D} = 20\frac{3}{6}$

$$\begin{array}{r|l} & 20 \\ 6 & 123 \\ & -12 \\ \hline & 03 \\ & -00 \\ \hline & 0 \end{array}$$

d) $\frac{98}{16} = \frac{Q\,R}{D} = 6\frac{2}{16}$

$$\begin{array}{r|l} & 6 \\ 16 & 98 \\ & -96 \\ \hline & 2 \end{array}$$

e) $\frac{105}{14} = \frac{Q\,R}{D} = 7\frac{7}{14}$

$$\begin{array}{r|l} & 7 \\ 14 & 105 \\ & -98 \\ \hline & 7 \end{array}$$

$$\begin{array}{r|l} & 7 \\ 14 & 105 \\ & -98 \\ \hline & 7 \end{array}$$

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f) $\frac{223}{18} = Q\frac{R}{D} = 12\frac{7}{18}$

$$\begin{array}{r|l} & 12 \\ 18 & 223 \\ & -18 \\ \hline & 43 \\ & -36 \\ \hline & 7 \end{array}$$

g) $\frac{445}{15} = Q\frac{R}{D} = 29\frac{10}{15}$

$$\begin{array}{r|l} & 29 \\ 15 & 445 \\ & -30 \\ \hline & 145 \\ & -135 \\ \hline & 10 \end{array}$$

(4)

5) Convert the following improper fractions into mixed numbers:

h) $\frac{614}{24} = 25\frac{14}{24}$

$$\begin{array}{r|l} & 25 \\ 24 & 614 \\ & -48 \\ \hline & 134 \\ & -120 \\ \hline & 14 \end{array}$$

i) $\frac{305}{85} = 3\frac{50}{85}$

$$\begin{array}{r|l} & 3 \\ 85 & 305 \\ & -255 \\ \hline & 50 \end{array}$$

j) $\frac{1148}{32} = 35\frac{28}{32}$

$$\begin{array}{r|l} & 35 \\ 32 & 1148 \\ & -96 \\ \hline & 188 \\ & -160 \\ \hline & 28 \end{array}$$

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6) Convert the following mixed numbers into improper fractions.

a) $14\frac{3}{4} = \frac{59}{4}$ $\quad \frac{4 \times 14 + 3}{4}$

b) $8\frac{6}{7} = \frac{62}{7}$ $\quad \frac{7 \times 8 + 6}{7}$

c) $24\frac{5}{7} = \frac{173}{7}$ $\quad \frac{7 \times 24 + 5}{7}$

d) $25\frac{4}{5} = \frac{129}{5}$ $\quad \frac{5 \times 25 + 4}{5}$

e) $48\frac{5}{8} = \frac{392}{8}\ \frac{389}{8}$ $\quad \frac{8 \times 48 + 5}{8}$

f) $17\frac{7}{9} = \frac{160}{9}$ $\quad \frac{9 \times 17 + 7}{9}$

g) $28\frac{5}{6} = \frac{293}{8}\ \frac{173}{6}$ $\quad \frac{6 \times 28 + 5}{6}$

a) Fill in the blanks using > or < to make correct answer.

a) $\frac{5}{14} \_ \frac{5}{8}$ $\quad \frac{5}{14} < \frac{5}{8}$

b) $\frac{11}{16} \_ \frac{11}{12}$ $\quad \frac{11}{16} < \frac{11}{12}$

c) $\frac{15}{19} \_ \frac{15}{23}$ $\quad \frac{15}{19} > \frac{15}{23}$

d) $\frac{33}{40} \_ \frac{27}{40}$ $\quad \frac{33}{40} > \frac{27}{40}$

e) $\frac{45}{70} \_ \frac{45}{85}$ $\quad \frac{45}{70} < \frac{45}{85}$

f) $\frac{37}{85} \_ \frac{37}{90}$ $\quad \frac{37}{85} > \frac{37}{90}$

g) $\frac{67}{79} \_ \frac{72}{79}$ $\quad \frac{67}{79} < \frac{72}{79}$

b) $\frac{32}{39} > \frac{27}{39}$

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6) Convert the following mixed numbers into improper fractions:

h) $71\frac{1}{8} = \frac{569}{8}$ $\quad \frac{8 \times 71 + 1}{8}$

i) $100\frac{3}{4} = \frac{403}{4}$ $\quad \frac{4 \times 100 + 3}{4}$

j) $33\frac{2}{3} = \frac{101}{3}$ $\quad \frac{3 \times 33 + 2}{3}$

7) Write 5 improper fractions with 12 as the denominator.

Ans- $\frac{17}{12}, \frac{22}{12}, \frac{23}{12}, \frac{33}{12}, \frac{40}{12}$

8) Write 5 fractions which are equal to 1.

Ans- $\frac{22}{22}, \frac{40}{40}, \frac{88}{88}, \frac{90}{90}, \frac{100}{100}$

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10) Fill in the blank using > or <

a) $\frac{3}{4} \_\_ \frac{6}{7}$ $\quad \frac{3}{4} < \frac{6}{7}$

b) $\frac{8}{9} \_\_ \frac{5}{6}$ $\quad \frac{8}{9} > \frac{5}{6}$

c) $\frac{3}{10} \_\_ \frac{5}{8}$ $\quad \frac{3}{10} < \frac{5}{8}$

d) $\frac{11}{12} \_\_ \frac{8}{9}$ $\quad \frac{11}{12} > \frac{8}{9}$

e) $6\frac{6}{7} \_\_ \frac{49}{8}$ $\quad 6\frac{6}{7} < \frac{49}{8}$

11) Arrange the following fractions in ascending order (use the sign <).

a) $\frac{11}{13}, \frac{11}{17}, \frac{11}{15}$

Ans - $\frac{11}{17} < \frac{11}{15} < \frac{11}{13}$

b) $\frac{8}{9}, \frac{8}{15}, \frac{8}{11}$

Ans- $\frac{8}{15} < \frac{8}{11} < \frac{8}{9}$

c) $\frac{8}{17}, \frac{16}{17}, \frac{15}{17}$

Ans- $\frac{8}{17} < \frac{15}{17} < \frac{16}{17}$

d) $\frac{3}{4}, \frac{5}{6}, \frac{7}{8}$

Ans- $\frac{7}{18}, \frac{3}{4}, \frac{5}{6}$ $\frac{7}{18} < \frac{3}{4} < \frac{5}{6}$

e) $\frac{8}{9}, \frac{7}{9}, \frac{2}{3}$

Ans- $\frac{7}{9} < \frac{8}{9}, \frac{2}{3}$ $\frac{2}{3} < \frac{7}{9} < \frac{8}{9}$

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10) Which is the greater of the two given fractions in each case? Write your answer using the sign '>' or '<'

f) $5\frac{2}{7} \geq \frac{41}{8}$

g) $1\frac{11}{12} \geq 1\frac{12}{15}$

h) $16\frac{3}{5} \geq 1\frac{12}{15}$

11) Arrange the following fractions in ascending order (use the sign <).

g) $\frac{7}{10}, \frac{2}{3}, \frac{11}{24}$

Ans - $\frac{11}{24} < \frac{2}{3} < \frac{7}{10}$

h) $\frac{11}{21}, \frac{5}{7}, \frac{1}{2}$

Ans- $\frac{1}{2} < \frac{11}{21} < \frac{5}{7}$

e) Arrange the following fractions in descending order (use the sign >).

a) $\frac{1}{4}, \frac{87}{8}, \frac{5}{12}$

Ans- $\frac{7}{8} > \frac{5}{12} > \frac{1}{4}$

b) $\frac{5}{8}, \frac{3}{16}, \frac{3}{4}$

Ans- $\frac{3}{4} > \frac{5}{8} > \frac{3}{16}$

c) $\frac{5}{8}, \frac{3}{4}, \frac{5}{14}$

Ans $\frac{3}{4} > \frac{5}{8} > \frac{5}{14}$

d) $\frac{5}{14}, \frac{7}{9}, \frac{2}{3}$

Ans- $\frac{7}{9} > \frac{2}{3} > \frac{5}{14}$

e) $\frac{7}{16}, \frac{3}{8}, \frac{5}{12}$

Ans- $\frac{7}{16} > \frac{5}{12} > \frac{3}{8}$

f) $\frac{25}{27}, \frac{8}{9}, \frac{15}{18}$

Ans- $\frac{25}{27} > \frac{8}{9} > \frac{15}{18}$

g) $\frac{11}{20}, \frac{4}{5}, \frac{17}{40}$

Ans- $\frac{4}{5} > \frac{11}{20} > \frac{17}{40}$

h) $\frac{11}{17}, \frac{1}{4}, \frac{1}{2}$

Ans- $\frac{11}{17} > \frac{1}{2} > \frac{1}{4}$