

Ch-9 - fractions
(Exercise-9-A)

1. write four equivalent fraction 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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(EXERCISE - 9-A)

2.

$$a) \frac{1}{5} = \frac{19}{20}$$

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

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

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

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

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

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

$$h) \frac{11}{13} = \frac{33}{39}$$

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

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

$$k) \frac{35}{50} = \frac{7}{10}$$

$$l) \frac{16}{64} = \frac{1}{4}$$

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

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

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

(EXERCISE - 9-A)

3. Reduce the following fraction to their lowest term.

a. $\frac{\cancel{68}^{34}}{\cancel{136}^{68}} = \frac{\cancel{34}^2}{\cancel{68}^4} = \frac{\cancel{2}^1}{\cancel{4}^2} = \frac{1}{2} \checkmark$

b. $\frac{\cancel{102}^{17}}{\cancel{179}^{17}} = \frac{\cancel{6}^1}{\cancel{17}^1} \checkmark$

c. $\frac{\cancel{15}^3}{\cancel{20}^4} = \frac{\cancel{15}^3}{\cancel{20}^5} = \frac{3}{5} \checkmark$

d. $\frac{\cancel{16}^4}{\cancel{24}^3} = \frac{\cancel{4}^3}{\cancel{81}^9} \checkmark$

e. $\frac{\cancel{15}^7}{\cancel{28}^8} = \frac{\cancel{7}^1}{\cancel{17}^1} = \frac{1}{17} \checkmark$

f. $\frac{\cancel{198}^{66}}{\cancel{297}^{99}} = \frac{\cancel{66}^{22}}{\cancel{99}^{33}} = \frac{\cancel{22}^2}{\cancel{33}^3} = \frac{2}{3} \checkmark$

$$g) \frac{\cancel{39}^{\cancel{13}}}{\cancel{63}^{\cancel{21}}} = \frac{\cancel{39}^{\cancel{13}}}{\cancel{63}^{\cancel{21}}} = \frac{13}{21}$$

$$b) \frac{\cancel{304}^{\cancel{152}}}{\cancel{368}^{\cancel{184}}} = \frac{\cancel{152}^{\cancel{76}}}{\cancel{184}^{\cancel{92}}} = \frac{\cancel{76}^{\cancel{38}}}{\cancel{46}^{\cancel{23}}} = \frac{19}{23}$$

$$= \frac{19}{23}$$

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4. Tick the proper fractions (✓).

a) $\frac{13}{16}$ ✓

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

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

d) $\frac{23}{25}$ ✓

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

f) $\frac{48}{50}$ ✓

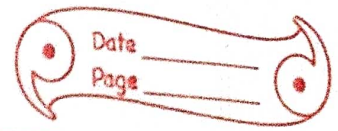
g) $\frac{25}{21}$

h) $\frac{1}{7}$ ✓

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

j) $\frac{63}{65}$ ✓

(EXERCISE - 9-A)



5. Convert the following ~~fractions~~
Improper fractions to ~~Improper~~
Mixed numbers.

$$a) \frac{21}{6} = \frac{6 \times 3 + 3}{6} = 3 \frac{3}{6}$$

$$b) \frac{112}{6} = \frac{18 \times 6 + 4}{6} = \cancel{20} 18 \frac{4}{6}$$

$$c) \frac{123}{6} = \frac{20 \times 6 + 3}{6} = 20 \frac{3}{6}$$

$$d) \frac{98}{6} = \frac{6 \times 16 + 2}{6} = 6 \frac{2}{6}$$

$$e) \frac{105}{14} = \frac{7 \times 14 + 7}{14} = 7 \frac{7}{14}$$

$$f) \frac{223}{18} = \frac{12 \times 18 + 7}{18} = 12 \frac{7}{18}$$

$$g) \frac{445}{15} = \frac{29 \times 15 + 10}{15} = 29 \frac{10}{15}$$

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

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

$$j) \frac{1148}{32} = \frac{32 \times 32 + 24}{32} = 32 \frac{24}{32}$$

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(EXERCISE - 9-A)

6. Convert the following mixed fraction into improper ~~fa~~ fraction.

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

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

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

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

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

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

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

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

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

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

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7. 5 improper fraction with denominator as 12.

ans- $\frac{14}{12}$, $\frac{13}{12}$, $\frac{15}{12}$, $\frac{17}{12}$, $\frac{19}{12}$

8. Write 5 fractions equal to 1
ans - $\frac{5}{5}$, $\frac{9}{9}$, $\frac{10}{10}$, $\frac{4}{4}$, $\frac{100}{100}$

9. Fill in the blanks using $>$ or $<$

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

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

c) $\frac{15}{19}$ $<$ $\frac{15}{23}$

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

e) $\frac{45}{70}$ $>$ $\frac{45}{80}$

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

g) $\frac{62}{79}$ $<$ $\frac{72}{79}$

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

EXERCISE-9-A

a) $\frac{3}{4}$ $\frac{6}{7}$ LCM of 4 and 7

is $2 \times 2 \times 7 = 28$

$$\begin{array}{r|rr} 2 & 4 & 7 \\ \hline 2 & 2 & 7 \\ \hline 7 & 1 & 7 \\ \hline & 1 & 1 \end{array}$$

$$\frac{3 \times 7 = 21}{4 \times 7 = 28}$$

$$\frac{6 \times 4 = 24}{7 \times 4 = 28}$$

$$\frac{24}{28} > \frac{21}{28}$$

$$\frac{6}{7} > \frac{3}{4}$$

b) $\frac{8}{9} \square \frac{5}{6}$

$$\frac{7 \times 6 + 6 = 48}{7} = \frac{48}{7}$$

c) $\frac{3}{10} \square \frac{5}{8}$

$$\frac{48}{7} \square \frac{49}{8}$$

d) $\frac{11}{12} \square \frac{8}{9}$

e) $6\frac{6}{7} \square \frac{49}{8}$

11. Arrange the following in ascending order

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

ans- ~~$\frac{11}{13}$~~ , ~~$\frac{11}{15}$~~ , $\frac{11}{17} < \frac{11}{15}$, $\frac{11}{13}$

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

d) $\frac{3}{4}$, $\frac{5}{6}$, $\frac{7}{18}$

ans- ~~$\frac{7}{18}$~~ $< \frac{3}{4} < \frac{5}{6}$

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

ans $\frac{2}{3} < \frac{7}{9} < \frac{8}{9}$

f. $\frac{7}{12} < \frac{2}{3} < \frac{5}{6}$

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Ex-9-A

10. Which is the greater of the 2 given fractions in each case? write your answer by writing the sign '>' or '<'

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

LCM of 7 and 8 is $2 \times 2 \times 2 \times 7 = 56$

$37\frac{7}{7} > \frac{41}{8}$

2	7, 8
2	7, 4
2	7, 2
7	7, 1
	1, 1

$\frac{37 \times 8}{7 \times 8} = \frac{296}{56}$

$\frac{296}{56} > \frac{28}{56}$

$\frac{41 \times 7}{8 \times 7} = \frac{287}{56}$

g) $1 \frac{11}{12} \Rightarrow 1 \frac{12}{15}$ LCM of 12 and 15 is - $2 \times 2 \times 3 \times 5 = 60$

$\frac{23}{12} \Rightarrow \frac{27}{15}$

2	12, 15
2	6, 15
3	3, 15
5	1, 5
	1, 1

$\frac{23 \times 5}{12 \times 5} = \frac{115}{60}$

$\frac{15}{60} \Rightarrow \frac{108}{60}$

$\frac{27 \times 4}{15 \times 4} = \frac{108}{60}$

h) $\frac{11}{21}, \frac{13}{7}, \frac{1}{2}$ $16 \frac{3}{5} \Rightarrow 16 \frac{4}{7}$

$\frac{83}{5} \Rightarrow \frac{116}{7}$

LCM of 5 and 7 is $5 \times 7 = 35$

5	5, 7
7	1, 7
	1, 1

$\frac{83 \times 7}{5 \times 7} = \frac{581}{35}$

$\frac{116 \times 5}{7 \times 5} = \frac{580}{35}$

$\frac{581}{35} \Rightarrow \frac{580}{35}$

11) Arrange the fraction in ascending order by using the sign '>' or '<'

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

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

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

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