

Working With Fractions



Level I

Reducing & Renaming Fractions

DEMONSTRATION PROBLEMS

Reducing

Ⓐ $\frac{6}{12} = \frac{1}{2}$ Ⓑ $\frac{4}{10} = \frac{2}{5}$

Ⓒ $\frac{10}{12} = \frac{5}{6}$ Ⓓ $\frac{5}{7} = \frac{5}{7}$

Renaming Mixed Numerals

Ⓔ $3\frac{2}{5} = \frac{17}{5}$ Ⓕ $4\frac{1}{2} = \frac{9}{2}$

Renaming Improper Fractions

Ⓖ $\frac{8}{5} = 1\frac{3}{5}$

Ⓗ $\frac{10}{4} = 2\frac{2}{4} = 2\frac{1}{2}$

Ⓘ $\frac{20}{12} = 1\frac{8}{12} = 1\frac{2}{3}$

Ⓙ $\frac{16}{4} = 4$

PROBLEM SET #1

Reduce each fraction

① $\frac{4}{8}$ ③ $\frac{3}{12}$ ⑤ $\frac{8}{12}$

② $\frac{5}{15}$ ④ $\frac{6}{9}$ ⑥ $\frac{6}{8}$

⑦ $\frac{10}{15}$

⑩ $\frac{5}{8}$

⑬ $\frac{9}{12}$

⑧ $\frac{7}{14}$

⑪ $\frac{12}{15}$

⑭ $\frac{3}{14}$

⑨ $\frac{15}{25}$

⑫ $\frac{20}{25}$

⑮ $\frac{9}{15}$

Renaming Mixed Numerals

⑯ $1\frac{2}{3}$

⑰ $4\frac{2}{7}$

⑲ $4\frac{4}{5}$

⑱ $2\frac{1}{2}$

⑳ $2\frac{3}{4}$

㉑ $1\frac{7}{8}$

㉒ $1\frac{3}{4}$

㉓ $3\frac{1}{5}$

㉔ $2\frac{5}{6}$

㉕ $4\frac{3}{5}$

㉖ $4\frac{1}{2}$

㉗ $1\frac{1}{7}$

㉘ $3\frac{1}{3}$

㉙ $6\frac{1}{4}$

㉚ $2\frac{5}{8}$

Renaming Improper Fractions

⑳ $\frac{5}{4}$

㉛ $\frac{9}{5}$

㉜ $\frac{3}{2}$

㉝ $\frac{8}{6}$

㉞ $\frac{12}{6}$

㉟ $\frac{12}{9}$

㊱ $\frac{12}{5}$

㊲ $\frac{7}{2}$

㊳ $\frac{12}{8}$

㊴ $\frac{15}{6}$

㊵ $\frac{10}{4}$

㊶ $\frac{9}{3}$

㊷ $\frac{14}{4}$

㊸ $\frac{20}{5}$

㊹ $\frac{15}{12}$



THEY SAY, LIFE IS WHAT YOU MAKE IT...
... BUT I SEEM TO HAVE GOTTEN HOLD OF A READY MIXED ONE !!

Comparing Fractions & Equivalent Fractions

DEMONSTRATION PROBLEMS

Use cross products to compare fractions

$$\textcircled{A} \quad \overset{20}{\frac{5}{7}} \square \overset{21}{\frac{3}{4}}$$

$$\textcircled{B} \quad \frac{1}{3} \square \frac{8}{5}$$

$$\overset{25}{\frac{5}{3}} > \overset{24}{\frac{8}{5}}$$

Use cross products to determine missing values in equivalent fractions

$$\textcircled{C} \quad \overset{24}{\frac{2}{8}} = \overset{24}{\frac{3}{n}}$$

$$24 \div 2 = 12 \quad n = 12$$

PROBLEM SET #2

Supply the missing comparison sign: $>$, $<$, $=$

$$\textcircled{1} \quad \frac{2}{3} \square \frac{1}{2} \quad \textcircled{4} \quad \frac{2}{5} \square \frac{4}{9}$$

$$\textcircled{2} \quad \frac{5}{7} \square \frac{3}{4} \quad \textcircled{5} \quad \frac{3}{8} \square \frac{2}{5}$$

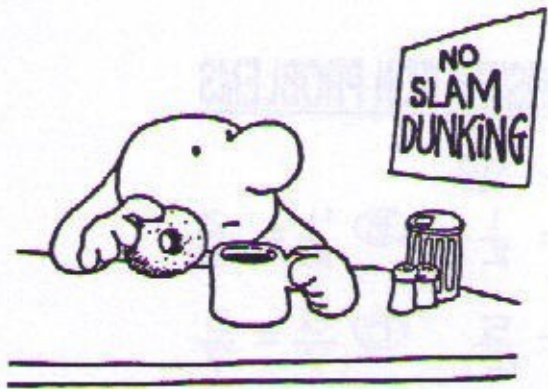
$$\textcircled{3} \quad \frac{4}{9} \square \frac{3}{7} \quad \textcircled{6} \quad 1\frac{2}{3} \square \frac{7}{4}$$

$$\textcircled{7} \quad 2\frac{1}{3} \square \frac{12}{5}$$

$$\textcircled{9} \quad 1\frac{3}{4} \square \frac{7}{4}$$

$$\textcircled{8} \quad \frac{8}{3} \square 2\frac{1}{4}$$

$$\textcircled{10} \quad \frac{5}{3} \square 1\frac{1}{2}$$



Determine the value of n

$$\textcircled{11} \quad \frac{3}{5} = \frac{n}{10}$$

$$\textcircled{16} \quad \frac{4}{6} = \frac{n}{9}$$

$$\textcircled{12} \quad \frac{3}{4} = \frac{n}{12}$$

$$\textcircled{17} \quad \frac{n}{15} = \frac{2}{6}$$

$$\textcircled{13} \quad \frac{n}{7} = \frac{4}{14}$$

$$\textcircled{18} \quad \frac{6}{n} = \frac{3}{4}$$

$$\textcircled{14} \quad \frac{6}{n} = \frac{2}{3}$$

$$\textcircled{19} \quad \frac{9}{12} = \frac{6}{n}$$

$$\textcircled{15} \quad \frac{3}{n} = \frac{2}{8}$$

$$\textcircled{20} \quad \frac{4}{6} = \frac{n}{15}$$

Reduce each fraction

$$\textcircled{21} \quad \frac{12}{36}$$

$$\textcircled{22} \quad \frac{15}{18}$$

$$\textcircled{23} \quad \frac{25}{30}$$

Rename each mixed numeral

$$\textcircled{24} \quad 4\frac{1}{4}$$

$$\textcircled{25} \quad 2\frac{4}{5}$$

$$\textcircled{26} \quad 3\frac{3}{4}$$

Rename each improper fraction

$$\textcircled{27} \quad \frac{16}{12}$$

$$\textcircled{28} \quad \frac{8}{6}$$

$$\textcircled{29} \quad \frac{15}{5}$$

Adding Fractions With Unlike Denominators

DEMONSTRATION PROBLEMS

Add these fractions

$$\textcircled{A} \frac{3}{4} + \frac{1}{3}$$

$$\begin{array}{r} \frac{3 \times 3}{4 \times 3} + \frac{1 \times 4}{3 \times 4} \\ \frac{9}{12} + \frac{4}{12} \\ \frac{13}{12} = 1 \frac{1}{12} \end{array}$$

$$\textcircled{B} \frac{5}{9} + \frac{4}{6}$$

$$\begin{array}{r} \frac{5 \times 2}{9 \times 2} + \frac{4 \times 3}{6 \times 3} \\ \frac{10}{18} + \frac{12}{18} \\ \frac{22}{18} = 1 \frac{4}{18} = 1 \frac{2}{9} \end{array}$$

PROBLEM SET #4

Add these fractions

$$\textcircled{1} \frac{1}{4} + \frac{1}{3} \quad \textcircled{6} \frac{3}{8} + \frac{5}{6}$$

$$\textcircled{2} \frac{2}{3} + \frac{1}{5} \quad \textcircled{7} \frac{7}{8} + \frac{1}{6}$$

$$\textcircled{3} \frac{4}{9} + \frac{1}{6} \quad \textcircled{8} \frac{5}{6} + \frac{3}{4}$$

$$\textcircled{4} \frac{5}{6} + \frac{2}{3} \quad \textcircled{9} \frac{4}{5} + \frac{3}{4}$$

$$\textcircled{5} \frac{3}{4} + \frac{7}{10} \quad \textcircled{10} \frac{5}{12} + \frac{7}{8}$$

$$\textcircled{11} \frac{3}{5} + \frac{1}{6}$$

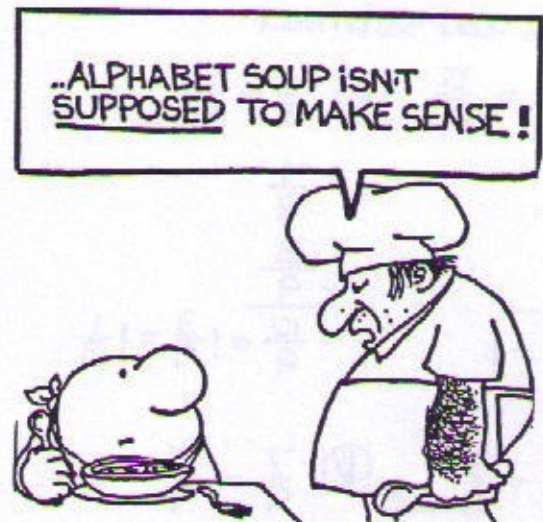
$$\textcircled{14} \frac{4}{6} + \frac{2}{8}$$

$$\textcircled{12} \frac{5}{7} + \frac{12}{14}$$

$$\textcircled{15} \frac{8}{10} + \frac{12}{15}$$

$$\textcircled{13} \frac{5}{8} + \frac{1}{4}$$

$$\textcircled{16} \frac{7}{8} + \frac{12}{16}$$



Reduce

$$\textcircled{17} \frac{20}{36}$$

$$\textcircled{18} \frac{7}{15}$$

$$\textcircled{19} \frac{14}{21}$$

Rename

$$\textcircled{20} 4 \frac{2}{7} = \text{improper fraction}$$

$$\textcircled{21} \frac{16}{6} = \text{mixed numeral}$$

<, >, or =

$$\textcircled{22} 2 \frac{1}{2} \square \frac{7}{3}$$

Solve for n

$$\textcircled{23} \frac{6}{n} = \frac{4}{10}$$

$$\textcircled{24} \frac{6}{8} = \frac{3}{n}$$

Adding & Subtracting With Like Denominators

DEMONSTRATION PROBLEMS

Add and subtract

$$\textcircled{A} \frac{3}{8} + \frac{5}{8}$$

$$\begin{array}{r} \frac{3}{8} \\ + \frac{5}{8} \\ \hline \frac{8}{8} = 1 \end{array}$$

$$\textcircled{B} \frac{4}{9} + \frac{8}{9}$$

$$\begin{array}{r} \frac{4}{9} \\ + \frac{8}{9} \\ \hline \frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3} \end{array}$$

$$\textcircled{C} \frac{5}{6} - \frac{3}{6}$$

$$\begin{array}{r} \frac{5}{6} \\ - \frac{3}{6} \\ \hline \frac{2}{6} = \frac{1}{3} \end{array}$$

$$\textcircled{D} \frac{7}{9} - \frac{7}{9}$$

$$\begin{array}{r} \frac{7}{9} \\ - \frac{7}{9} \\ \hline \frac{0}{9} = 0 \end{array}$$

PROBLEM SET #3

Add and subtract

$$\textcircled{1} \frac{2}{5} + \frac{1}{5}$$

$$\textcircled{5} \frac{5}{9} + \frac{7}{9}$$

$$\textcircled{2} \frac{4}{7} + \frac{2}{7}$$

$$\textcircled{6} \frac{4}{5} + \frac{1}{5}$$

$$\textcircled{3} \frac{5}{8} + \frac{4}{8}$$

$$\textcircled{7} \frac{2}{9} + \frac{5}{9}$$

$$\textcircled{4} \frac{3}{7} + \frac{6}{7}$$

$$\textcircled{8} \frac{5}{6} + \frac{5}{6}$$

$$\textcircled{9} \frac{7}{8} + \frac{3}{8}$$

$$\textcircled{15} \frac{9}{10} - \frac{5}{10}$$

$$\textcircled{10} \frac{5}{6} + \frac{1}{6}$$

$$\textcircled{16} \frac{5}{6} - \frac{1}{6}$$

$$\textcircled{11} \frac{3}{4} + \frac{3}{4}$$

$$\textcircled{17} \frac{11}{12} - \frac{2}{12}$$

$$\textcircled{12} \frac{7}{10} + \frac{8}{10}$$

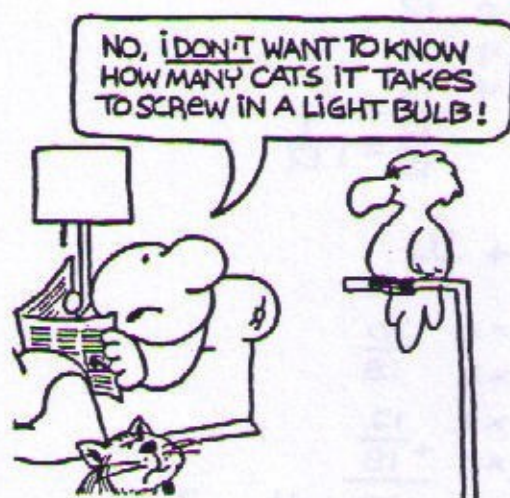
$$\textcircled{18} \frac{7}{8} - \frac{3}{8}$$

$$\textcircled{13} \frac{4}{9} + \frac{8}{9}$$

$$\textcircled{19} \frac{3}{7} - \frac{3}{7}$$

$$\textcircled{14} \frac{5}{12} + \frac{11}{12}$$

$$\textcircled{20} \frac{15}{16} - \frac{7}{16}$$



Reduce

$$\textcircled{21} \frac{16}{20}$$

$$\textcircled{22} \frac{9}{18}$$

$$\textcircled{23} \frac{18}{24}$$

Rename

$$\textcircled{24} 3\frac{2}{7} = \text{improper fraction}$$

$$\textcircled{25} \frac{14}{8} = \text{mixed numeral}$$

>, <, or =

$$\textcircled{26} \frac{2}{5} \square \frac{1}{3}$$

$$\textcircled{27} 2\frac{2}{3} \square \frac{11}{4}$$

Solve for n

$$\textcircled{28} \frac{6}{n} = \frac{9}{12}$$

$$\textcircled{29} \frac{5}{6} = \frac{n}{18}$$

Adding Mixed Numerals

- 13 $2\frac{3}{5} + 3\frac{3}{4}$ 15 $4\frac{3}{4} + 2\frac{3}{8}$
 14 $5\frac{7}{8} + 2\frac{1}{6}$ 16 $4\frac{1}{3} + 2\frac{5}{6}$

DEMONSTRATION PROBLEMS

Add these mixed numerals

$$\textcircled{A} \quad 2\frac{1}{4} + 3\frac{2}{3}$$

$$\begin{array}{r} 2\frac{1}{4} \times 3 \quad 2\frac{3}{12} \\ + 3\frac{2}{3} \times 4 \quad + 3\frac{8}{12} \\ \hline 5\frac{11}{12} \end{array}$$

$$\textcircled{B} \quad 4\frac{2}{3} + 3\frac{5}{6}$$

$$\begin{array}{r} 4\frac{2}{3} \times 2 \quad 4\frac{4}{6} \\ + 3\frac{5}{6} \times 1 \quad + 3\frac{5}{6} \\ \hline 7\frac{9}{6} = 8\frac{1}{2} \end{array}$$

PROBLEM SET #5

Add these mixed numerals

- ① $5\frac{1}{3} + 3\frac{1}{4}$ ⑦ $6\frac{5}{8} + 3\frac{1}{2}$
 ② $2\frac{1}{8} + 5\frac{2}{3}$ ⑧ $2\frac{9}{10} + 3\frac{4}{5}$
 ③ $1\frac{3}{5} + 3\frac{1}{4}$ ⑨ $7\frac{2}{3} + 8\frac{4}{5}$
 ④ $2\frac{3}{7} + 4\frac{1}{5}$ ⑩ $3\frac{3}{4} + 5\frac{5}{6}$
 ⑤ $6\frac{2}{3} + 3\frac{3}{4}$ ⑪ $4\frac{1}{2} + 2\frac{3}{4}$
 ⑥ $4\frac{1}{2} + 3\frac{2}{3}$ ⑫ $1\frac{5}{6} + 1\frac{1}{4}$



Reduce

- 17 $\frac{21}{28}$ 18 $\frac{16}{24}$ 19 $\frac{4}{14}$

Rename

- 20 $5\frac{1}{3} =$ improper fraction
 21 $\frac{12}{8} =$ mixed numeral
 22 $\frac{16}{6} =$ mixed numeral

<, >, or =

- 23 $2\frac{3}{4} \square \frac{5}{2}$
 24 $\frac{10}{3} \square 3\frac{1}{4}$

Solve for n

- 25 $\frac{12}{n} = \frac{9}{6}$ 26 $\frac{n}{10} = \frac{6}{15}$

Subtracting Fractions & Mixed Numerals

DEMONSTRATION PROBLEMS

Subtract these fractions and mixed numerals

$$\begin{array}{r} \textcircled{A} \frac{3}{4} - \frac{1}{6} \\ \frac{3 \times 3}{4 \times 3} - \frac{1}{6} \\ \frac{9}{12} - \frac{2}{12} \\ \frac{7}{12} \end{array} \quad \begin{array}{r} \textcircled{B} 6\frac{2}{5} - 1\frac{1}{4} \\ 6\frac{2 \times 4}{5 \times 4} - 1\frac{1 \times 5}{4 \times 5} \\ 6\frac{8}{20} - 1\frac{5}{20} \\ 5\frac{3}{20} \end{array}$$

PROBLEM SET #6

Subtract these fractions and mixed numerals

$$\begin{array}{ll} \textcircled{1} \frac{2}{3} - \frac{1}{4} & \textcircled{9} 8\frac{7}{8} - 3\frac{2}{5} \\ \textcircled{2} \frac{3}{5} - \frac{1}{3} & \textcircled{10} 7\frac{2}{3} - 1\frac{2}{7} \\ \textcircled{3} \frac{5}{8} - \frac{1}{2} & \textcircled{11} 5\frac{3}{4} - 2\frac{1}{6} \\ \textcircled{4} \frac{5}{6} - \frac{2}{3} & \textcircled{12} 4\frac{2}{3} - 1\frac{1}{2} \\ \textcircled{5} 3\frac{1}{2} - 1\frac{1}{3} & \textcircled{13} 6\frac{3}{4} - 2\frac{2}{3} \\ \textcircled{6} 4\frac{4}{5} - 2\frac{2}{3} & \textcircled{14} 8\frac{4}{5} - 5\frac{3}{4} \\ \textcircled{7} 8\frac{5}{8} - 2\frac{1}{4} & \textcircled{15} 4\frac{5}{6} - 1\frac{3}{4} \\ \textcircled{8} 9\frac{3}{4} - 4\frac{2}{5} & \textcircled{16} 7\frac{3}{5} - 4\frac{1}{3} \end{array}$$

Reduce

$$\textcircled{17} \frac{15}{45} \quad \textcircled{18} \frac{18}{30} \quad \textcircled{19} \frac{24}{32} \quad \textcircled{20} \frac{17}{34}$$

Rename

$$\textcircled{21} 4\frac{3}{4} = \text{improper fraction} \quad \textcircled{22} \frac{18}{10} = \text{mixed numeral}$$

<, >, =

Solve for n

$$\textcircled{23} 3\frac{1}{5} \square \frac{10}{3} \quad \textcircled{24} \frac{n}{6} = \frac{5}{15}$$

Add these mixed numerals

$$\textcircled{25} 2\frac{1}{4} + 3\frac{5}{6} \quad \textcircled{26} 4\frac{1}{2} + 3\frac{4}{7}$$

Subtracting Fractions With Borrowing

DEMONSTRATION PROBLEMS

Subtract with borrowing

$$\begin{array}{r} \textcircled{A} 5\frac{1}{3} \times 4 \quad 4\frac{16}{12} \text{ borrow } \frac{12}{12} \\ \frac{1 \times 4}{3 \times 4} \quad \frac{16}{12} \\ - \frac{2 \times 3}{4 \times 3} \quad - \frac{2 \times 9}{12} \\ \hline \quad \quad 2\frac{7}{12} \end{array}$$

$$\begin{array}{r} \textcircled{B} 6 \quad 5\frac{3}{3} \text{ borrow } \frac{3}{3} \\ - 1\frac{2}{3} \quad - 1\frac{2}{3} \\ \hline \quad \quad 4\frac{1}{3} \end{array}$$

To minimize mistakes, cross out and rewrite the top numeral

PROBLEM SET #7

Subtract

$$\textcircled{1} 6\frac{1}{4} - 2\frac{2}{3} \quad \textcircled{9} 6\frac{3}{4} - 2\frac{5}{6}$$

$$\textcircled{2} 5\frac{3}{8} - 3\frac{1}{2} \quad \textcircled{10} 3\frac{3}{10} - 1\frac{4}{5}$$

$$\textcircled{3} 4 - 2\frac{3}{5} \quad \textcircled{11} 8\frac{1}{4} - 6\frac{3}{5}$$

$$\textcircled{4} 7\frac{1}{3} - 4\frac{3}{4} \quad \textcircled{12} 8 - 2\frac{2}{7}$$

$$\textcircled{5} 6\frac{1}{6} - 1\frac{3}{4} \quad \textcircled{13} 6\frac{2}{3} - 3\frac{7}{8}$$

$$\textcircled{6} 8\frac{3}{5} - 2\frac{1}{3} \quad \textcircled{14} 5\frac{1}{5} - 3\frac{1}{3}$$

$$\textcircled{7} 5\frac{2}{3} - 3\frac{1}{2} \quad \textcircled{15} 9\frac{3}{4} - 4\frac{7}{8}$$

$$\textcircled{8} 4\frac{3}{7} - 1\frac{3}{4} \quad \textcircled{16} 6 - 3\frac{4}{5}$$

Reduce and rename

$$\textcircled{17} \frac{20}{28} = \text{reduced fraction}$$

$$\textcircled{18} 5\frac{2}{3} = \text{improper fraction}$$

$$\textcircled{19} \frac{24}{14} = \text{mixed numeral}$$

$<$, $>$, or $=$ Solve for n

$$\textcircled{20} 2\frac{1}{4} \square \frac{7}{3} \quad \textcircled{21} \frac{3}{n} = \frac{9}{15}$$

Add

$$\textcircled{22} 4\frac{1}{3} + 1\frac{4}{5} \quad \textcircled{23} 6\frac{1}{2} + 4\frac{2}{3}$$



i FEEL LIKE AN
UNLISTED NUMBER
IN THE GREAT
PHONE BOOK OF LIFE..

Multiplying Fractions

DEMONSTRATION PROBLEMS

multiply

$$\textcircled{A} \frac{4}{5} \times \frac{2}{3} = \frac{8}{15}$$

$$\textcircled{B} \frac{3}{4} \times \frac{4}{9} = \frac{12}{36} = \frac{1}{3}$$

$$\textcircled{C} \frac{5}{6} \times 4 = \frac{20}{6} = 3\frac{2}{6} = 3\frac{1}{3}$$

PROBLEM SET #8

$$\textcircled{1} \frac{2}{3} \times \frac{1}{5}$$

$$\textcircled{9} \frac{3}{5} \times 3$$

$$\textcircled{2} \frac{3}{4} \times \frac{3}{5}$$

$$\textcircled{10} 4 \times \frac{1}{5}$$

$$\textcircled{3} \frac{1}{2} \times \frac{3}{4}$$

$$\textcircled{11} 6 \times \frac{3}{4}$$

$$\textcircled{4} \frac{2}{7} \times \frac{1}{3}$$

$$\textcircled{12} \frac{1}{3} \times \frac{3}{4}$$

$$\textcircled{5} \frac{3}{4} \times \frac{2}{3}$$

$$\textcircled{13} \frac{4}{5} \times \frac{5}{6}$$

$$\textcircled{6} \frac{2}{5} \times \frac{3}{8}$$

$$\textcircled{14} \frac{2}{3} \times \frac{1}{2}$$

$$\textcircled{7} \frac{4}{5} \times \frac{1}{6}$$

$$\textcircled{15} \frac{4}{7} \times \frac{7}{8}$$

$$\textcircled{8} \frac{2}{3} \times 5$$

$$\textcircled{16} \frac{3}{4} \times \frac{8}{9}$$

Reduce and rename

⑰ $\frac{20}{25}$ = fraction reduced

⑱ $2\frac{5}{6}$ = improper fraction

⑲ $\frac{24}{10}$ = mixed numeral

<, >, or = Solve

⑳ $1\frac{4}{5}$ \square $\frac{7}{4}$ ㉑ $\frac{4}{n} = \frac{3}{12}$

Add and subtract

㉒ $3\frac{1}{2} + 2\frac{2}{3}$ ㉓ $5\frac{2}{5} + 4\frac{3}{4}$

㉔ $4\frac{1}{4} - 2\frac{3}{5}$ ㉕ $6\frac{1}{3} - 1\frac{1}{2}$

Multiplying Fractions With Cross Reducing

DEMONSTRATION PROBLEMS

Reduce before multiplying

Ⓐ $\frac{4}{3} \times \frac{15}{7} = \frac{4}{21}$ Ⓑ $\frac{26}{39} \times \frac{1}{5} = \frac{2}{15}$

Ⓒ $\frac{28}{3} \times \frac{15}{16}$ Ⓓ $\frac{36}{510} \times \frac{5}{7}$

$\frac{12}{18} \times \frac{518}{816} = \frac{5}{8}$ $\frac{3}{18} \times \frac{18}{7} = \frac{3}{7}$

PROBLEM SET #9

Reduce before multiplying

① $\frac{6}{8} \times \frac{5}{9}$

⑨ $\frac{12}{15} \times \frac{1}{5}$

② $\frac{4}{5} \times \frac{15}{16}$

⑩ $\frac{14}{15} \times \frac{10}{21}$

③ $\frac{8}{11} \times \frac{22}{24}$

⑪ $\frac{5}{6} \times \frac{7}{14}$

④ $\frac{6}{7} \times \frac{14}{15}$

⑫ $\frac{22}{25} \times \frac{5}{33}$

⑤ $\frac{20}{21} \times \frac{7}{30}$

⑬ $\frac{9}{12} \times \frac{5}{10}$

⑥ $\frac{8}{25} \times \frac{15}{16}$

⑭ $\frac{8}{9} \times \frac{3}{4}$

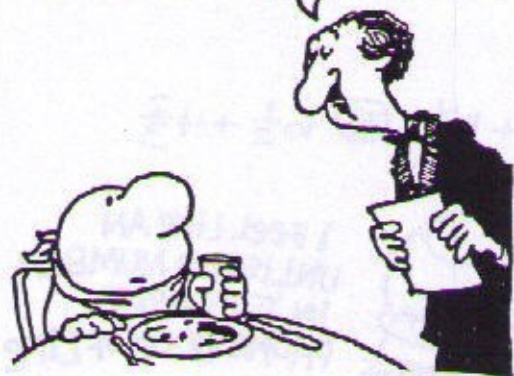
⑦ $\frac{4}{7} \times \frac{7}{12}$

⑮ $\frac{5}{6} \times \frac{9}{15}$

⑧ $\frac{3}{5} \times \frac{8}{9}$

⑯ $\frac{8}{10} \times \frac{15}{24}$

IF YOU DON'T MIND, SIR, I'D RATHER NOT SEND YOUR COMPLIMENTS TO THE CHEF... HE'S INSUFFERABLY SMUG ALREADY!



Rename as an improper fraction

⑰ $4\frac{1}{2}$ ⑱ $8\frac{2}{3}$ ⑲ $6\frac{3}{4}$

Subtract

⑳ $4\frac{1}{3} - 2\frac{3}{4}$ ㉑ $6\frac{3}{8} - 2\frac{5}{6}$

㉒ $7\frac{1}{4} - 1\frac{4}{5}$ ㉓ $9\frac{1}{2} - 5\frac{2}{3}$

Multiplying Mixed Numerals

DEMONSTRATION PROBLEMS

multiply

Ⓐ $1\frac{1}{2} \times 2\frac{2}{3}$

$$\frac{1\cancel{2}}{\cancel{1}2} \times \frac{4\cancel{8}}{\cancel{1}3} = \frac{4}{1} = 4$$

Ⓑ $2\frac{2}{3} \times 6$

$$1\frac{8}{3} \times 2\cancel{6} = \frac{16}{1} = 16$$

Ⓒ $3\frac{1}{6} \times 2$

$$3\frac{19}{6} \times 1\cancel{2} = \frac{19}{3} = 6\frac{1}{3}$$

PROBLEM SET #10

multiply

① $1\frac{1}{3} \times 3\frac{1}{2}$ ② $2\frac{1}{4} \times 1\frac{1}{6}$

③ $1\frac{2}{3} \times 1\frac{1}{5}$

⑩ $\frac{6}{7} \times 4\frac{1}{3}$

④ $4\frac{1}{2} \times 2\frac{2}{3}$

⑪ $2\frac{1}{3} \times 1\frac{2}{7}$

⑤ $2\frac{1}{2} \times 6$

⑫ $3\frac{3}{4} \times 2\frac{2}{5}$

⑥ $1\frac{3}{4} \times 8$

⑬ $12 \times 1\frac{1}{3}$

⑦ $2\frac{1}{3} \times \frac{3}{5}$

⑭ $3 \times 1\frac{1}{5}$

⑧ $1\frac{5}{6} \times \frac{12}{13}$

⑮ $1\frac{2}{3} \times 2\frac{1}{5}$

⑨ $\frac{5}{8} \times 2\frac{2}{5}$

⑯ $2\frac{2}{5} \times 2\frac{2}{9}$

Reduce

⑰ $\frac{14}{20}$

⑱ $\frac{24}{32}$

⑲ $\frac{25}{35}$

Rename

⑳ $3\frac{1}{4} =$ improper fraction

㉑ $\frac{16}{12} =$ mixed numeral

<, >, or = Solve for n

㉒ $1\frac{2}{5} > \frac{10}{7}$ ㉓ $\frac{n}{4} = \frac{9}{12}$

Add/subtract

㉔ $2\frac{3}{4} + 1\frac{4}{5}$ ㉕ $6\frac{1}{3} + 2\frac{7}{8}$

㉖ $6\frac{3}{8} - 1\frac{3}{4}$ ㉗ $5\frac{1}{2} - 2\frac{4}{5}$



...AND THE WINNER OF OUR BIG CASH CONTEST IS ZIGGY!!... IF YOU CALL THIS STATION WITHIN TEN SECONDS MR. ZIGGY THE BIG CASH PRIZE IS YOURS... ARE YOU OUT THERE?? GUESS NOT... WELL THEN... OUR NEXT WINNER IS



Finding A Reciprocal

DEMONSTRATION PROBLEMS

Indicate the reciprocal

- (A) $\frac{3}{4} \rightarrow \frac{4}{3}$ (B) $\frac{5}{8} \rightarrow \frac{8}{5}$
- (C) $6 \rightarrow \frac{1}{6}$ (D) $2 \rightarrow \frac{1}{2}$
- (E) $3\frac{1}{5} = \frac{16}{5} \rightarrow \frac{5}{16}$
- (F) $2\frac{3}{7} = \frac{17}{7} \rightarrow \frac{7}{17}$

PROBLEM SET #11

Indicate the reciprocal

- ① $\frac{3}{4}$ ④ $\frac{1}{7}$ ⑦ $\frac{2}{3}$
- ② $\frac{2}{5}$ ⑤ 6 ⑧ $\frac{4}{5}$
- ③ $\frac{1}{3}$ ⑥ 8 ⑨ $1\frac{1}{2}$

- ⑩ $2\frac{2}{3}$ ⑮ 7 ⑳ $1\frac{5}{6}$
- ⑪ $3\frac{1}{4}$ ⑯ 4 ㉑ $1\frac{3}{4}$
- ⑫ $5\frac{1}{3}$ ⑰ $\frac{3}{8}$ ㉒ $2\frac{2}{9}$
- ⑬ $4\frac{2}{5}$ ⑱ $\frac{5}{9}$ ㉓ 3
- ⑭ $1\frac{1}{8}$ ⑲ $2\frac{4}{5}$ ㉔ 5

<, >, or = Solve for n

- ⑳ $3\frac{1}{4} \square \frac{16}{5}$ ㉔ $\frac{4}{7} = \frac{n}{28}$

Add / Subtract

- ㉗ $4\frac{2}{5} + 2\frac{5}{6}$ ㉘ $6\frac{1}{3} - 2\frac{3}{4}$
- ㉙ $7 - 1\frac{4}{9}$ ㉚ $5\frac{1}{8} - 1\frac{1}{6}$

multiply

- ㉛ $\frac{2}{3} \times \frac{9}{10}$ ㉜ $4\frac{1}{2} \times \frac{8}{9}$
- ㉝ $2\frac{1}{2} \times 1\frac{3}{5}$ ㉞ $2\frac{1}{3} \times 1\frac{2}{7}$

Dividing Fractions

DEMONSTRATION PROBLEMS

Divide

- (A) $\frac{4}{5} \div \frac{6}{7}$ (B) $2\frac{1}{2} \div \frac{3}{4}$
- $\frac{24}{5} \times \frac{7}{36} = \frac{14}{15}$ $\frac{5}{12} \times \frac{24}{3} = \frac{10}{3} = 3\frac{1}{3}$

$$\textcircled{c} 8 \div \frac{3}{4}$$

$$8 \times \frac{4}{3} = \frac{32}{3} = 10\frac{2}{3}$$

multiply

$$\textcircled{22} 3\frac{1}{2} \times 3\frac{1}{3}$$

$$\textcircled{23} 1\frac{3}{4} \times 2\frac{2}{5}$$

PROBLEM SET #12

Divide

$$\textcircled{1} \frac{2}{3} \div \frac{3}{4} \quad \textcircled{9} 1\frac{3}{4} \div \frac{3}{4}$$

$$\textcircled{2} \frac{4}{5} \div \frac{1}{2} \quad \textcircled{10} 2\frac{1}{3} \div \frac{7}{8}$$

$$\textcircled{3} \frac{3}{7} \div \frac{2}{5} \quad \textcircled{11} 3\frac{2}{3} \div \frac{1}{2}$$

$$\textcircled{4} \frac{1}{3} \div \frac{1}{2} \quad \textcircled{12} 2\frac{1}{2} \div \frac{3}{4}$$

$$\textcircled{5} \frac{5}{9} \div \frac{2}{3} \quad \textcircled{13} 6 \div \frac{2}{3}$$

$$\textcircled{6} \frac{5}{6} \div \frac{10}{11} \quad \textcircled{14} 4 \div \frac{3}{5}$$

$$\textcircled{7} \frac{3}{4} \div \frac{7}{8} \quad \textcircled{15} 1\frac{1}{2} \div \frac{6}{7}$$

$$\textcircled{8} \frac{1}{6} \div \frac{2}{3} \quad \textcircled{16} 2\frac{1}{3} \div \frac{7}{9}$$

Determine the reciprocal

$$\textcircled{17} 5\frac{1}{2} \quad \textcircled{18} 3\frac{2}{3}$$

Add/Subtract

$$\textcircled{19} 3\frac{2}{5} + 6\frac{1}{2}$$

$$\textcircled{20} 8\frac{1}{4} - 3\frac{2}{3}$$

$$\textcircled{21} 5\frac{2}{8} - 1\frac{3}{4}$$



Dividing Fractions & Mixed Numerals

DEMONSTRATION PROBLEMS

Two-step division if divisor is a fraction or whole number

$$\textcircled{A} 1\frac{3}{4} \div \frac{5}{6}$$

$$2\frac{7}{4} \times \frac{6}{5} = \frac{21}{10} = 2\frac{1}{10}$$

$$\textcircled{B} 3\frac{1}{2} \div 7$$

$$1\frac{7}{2} \times \frac{1}{7} = \frac{1}{2}$$

Three-step division if divisor is a mixed numeral

$$\textcircled{C} 2\frac{1}{2} \div 1\frac{2}{3}$$

$$\frac{5}{2} \div \frac{5}{3}$$

$$1\frac{5}{2} \times \frac{3}{5} = \frac{3}{2} = 1\frac{1}{2}$$

$$\textcircled{1} \frac{3}{4} \div 2\frac{1}{2}$$

$$\frac{3}{4} \div \frac{5}{2}$$

$$2\frac{3}{4} \times \frac{2}{5} = \frac{3}{10}$$

PROBLEM SET #13

Divide

$$\textcircled{1} 1\frac{1}{3} \div \frac{2}{3} \quad \textcircled{9} 8 \div 1\frac{1}{3}$$

$$\textcircled{2} 3\frac{1}{2} \div \frac{7}{8} \quad \textcircled{10} 5 \div 3\frac{1}{3}$$

$$\textcircled{3} 1\frac{4}{5} \div 6 \quad \textcircled{11} \frac{2}{3} \div 2\frac{2}{3}$$

$$\textcircled{4} 1\frac{1}{2} \div 9 \quad \textcircled{12} \frac{3}{8} \div 2\frac{1}{4}$$

$$\textcircled{5} 1\frac{1}{2} \div 1\frac{1}{3} \quad \textcircled{13} 1\frac{3}{5} \div 1\frac{1}{3}$$

$$\textcircled{6} 2\frac{1}{3} \div 1\frac{1}{2} \quad \textcircled{14} 1\frac{1}{5} \div 1\frac{4}{5}$$

$$\textcircled{7} 2\frac{1}{2} \div 1\frac{7}{8} \quad \textcircled{15} 2\frac{4}{5} \div 1\frac{2}{5}$$

$$\textcircled{8} 4\frac{1}{2} \div 3\frac{3}{4} \quad \textcircled{16} 1\frac{2}{7} \div 1\frac{5}{7}$$

Reduce / Rename

$$\textcircled{17} \frac{12}{28} = \text{reduced fraction}$$

$$\textcircled{18} 2\frac{1}{4} = \text{improper fraction}$$

$$\textcircled{19} \frac{16}{10} = \text{mixed numeral}$$

<, >, or = Solve for n

$$\textcircled{20} 1\frac{1}{3} \square \frac{5}{4} \quad \textcircled{21} \frac{6}{8} = \frac{9}{n}$$

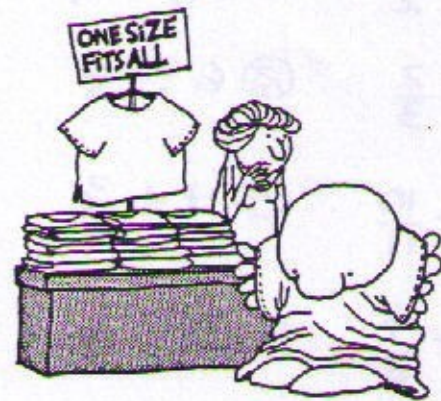
Add / Subtract

$$\textcircled{22} 3\frac{2}{3} + 4\frac{4}{5} \quad \textcircled{24} 7\frac{1}{4} - 2\frac{3}{8}$$

$$\textcircled{23} 6\frac{1}{2} - 2\frac{1}{3} \quad \textcircled{25} 9\frac{2}{5} - 1\frac{3}{4}$$

multiply

$$\textcircled{26} \frac{4}{5} \times 10 \quad \textcircled{27} 2\frac{1}{2} \times \frac{8}{15}$$



Reviewing Operations With Fractions

PROBLEM SET #14

Reduce

$$\textcircled{1} \frac{15}{45}$$

$$\textcircled{2} \frac{16}{24}$$

Rename as improper fraction

③ $3\frac{3}{4}$ ④ $1\frac{4}{5}$

Rename as mixed numeral

⑤ $\frac{14}{10}$ ⑥ $\frac{8}{6}$

<, >, or =

⑦ $3\frac{1}{2} \square \frac{10}{3}$ ⑧ $\frac{8}{5} \square 1\frac{2}{3}$

Solve for n

⑨ $\frac{4}{6} = \frac{n}{9}$ ⑩ $\frac{6}{n} = \frac{4}{10}$

Indicate the reciprocal

⑪ 6 ⑫ $2\frac{1}{5}$

Add

⑬ $\frac{2}{3} + \frac{3}{4}$ ⑭ $2\frac{1}{4} + 5\frac{5}{6}$

Subtract

⑮ $\frac{3}{5} - \frac{1}{3}$ ⑯ $3\frac{1}{2} - 1\frac{1}{3}$

⑰ $6 - 3\frac{1}{4}$ ⑱ $4\frac{1}{3} - 1\frac{2}{5}$

⑲ $8\frac{1}{4} - 3\frac{1}{2}$ ⑳ $6\frac{1}{8} - 1\frac{1}{3}$

multiply

㉑ $\frac{14}{25} \times \frac{10}{21}$ ㉒ $1\frac{2}{3} \times 6$

㉓ $1\frac{1}{2} \times \frac{5}{6}$ ㉔ $1\frac{1}{3} \times 4\frac{1}{2}$

Divide

㉕ $\frac{1}{2} \div \frac{3}{4}$ ㉖ $\frac{2}{3} \div 6$

㉗ $2\frac{1}{2} \div 1\frac{1}{2}$ ㉘ $6 \div 1\frac{1}{2}$

㉙ $3\frac{1}{3} \div 7\frac{1}{2}$ ㉚ $2\frac{1}{2} \div 3\frac{3}{4}$



PROBLEM SET #15

Reduce

① $\frac{8}{22}$ ② $\frac{20}{25}$

Rename as improper fraction

③ $4\frac{1}{5}$ ④ $2\frac{5}{6}$

Rename as mixed numeral

⑤ $\frac{12}{8}$ ⑥ $\frac{18}{10}$

<, >, or =

⑦ $2\frac{1}{3} \square \frac{5}{2}$ ⑧ $\frac{8}{3} \square 2\frac{3}{4}$

Solve for n

⑨ $\frac{4}{12} = \frac{3}{n}$ ⑩ $\frac{3}{12} = \frac{n}{8}$

Indicate the reciprocal

⑪ 8 ⑫ $3\frac{3}{8}$

Add

⑬ $\frac{1}{3} + \frac{1}{4}$ ⑭ $3\frac{2}{5} + 1\frac{2}{3}$

Subtract

⑮ $\frac{5}{6} - \frac{3}{4}$ ⑯ $4\frac{2}{7} - 1\frac{1}{5}$

⑰ $8 - 2\frac{4}{5}$ ⑱ $6\frac{2}{3} - 2\frac{5}{6}$

⑲ $7\frac{2}{3} - 1\frac{3}{4}$ ⑳ $5\frac{1}{6} - 2\frac{1}{4}$

Multiply

㉑ $\frac{12}{15} \times \frac{5}{18}$ ㉒ $2\frac{1}{4} \times 8$

㉓ $\frac{5}{22} \times 2\frac{3}{4}$ ㉔ $2\frac{1}{3} \times 1\frac{5}{7}$

Divide

㉕ $\frac{2}{3} \div \frac{2}{5}$ ㉖ $\frac{4}{5} \div 8$

㉗ $2\frac{1}{3} \div 3\frac{1}{2}$ ㉘ $8 \div 1\frac{1}{3}$

㉙ $2\frac{1}{4} \div 1\frac{1}{2}$ ㉚ $2\frac{2}{3} \div 3\frac{1}{3}$

ONE GOOD THING ABOUT BEING A NOBODY IS THAT YOU NEVER HAVE TO WORRY ABOUT HAVING AN IDENTITY CRISIS...



PROBLEM SET #16

Reduce

① $\frac{12}{48}$ ② $\frac{14}{35}$

Rename as improper fraction

③ $2\frac{2}{3}$ ④ $3\frac{1}{4}$

Rename as mixed numeral

⑤ $\frac{20}{16}$ ⑥ $\frac{24}{14}$

<, >, or =

⑦ $1\frac{3}{4} \square \frac{5}{3}$ ⑧ $\frac{7}{3} \square 2\frac{1}{2}$

Solve for n

⑨ $\frac{n}{15} = \frac{6}{10}$ ⑩ $\frac{2}{12} = \frac{3}{n}$

Indicate the reciprocal

⑪ 3 ⑫ $4\frac{1}{2}$

Add

⑬ $\frac{1}{2} + \frac{3}{8}$ ⑭ $4\frac{3}{4} + 3\frac{2}{7}$

Subtract

⑮ $\frac{2}{3} - \frac{1}{8}$ ⑯ $5\frac{3}{4} - 2\frac{2}{3}$

⑰ $7 - 5\frac{2}{3}$ ⑱ $8\frac{1}{6} - 3\frac{1}{4}$

⑲ $9\frac{3}{8} - 4\frac{5}{6}$ ㉑ $4\frac{1}{3} - 2\frac{3}{5}$

Multiply

㉒ $\frac{9}{20} \times \frac{10}{15}$ ㉓ $1\frac{1}{2} \times 10$

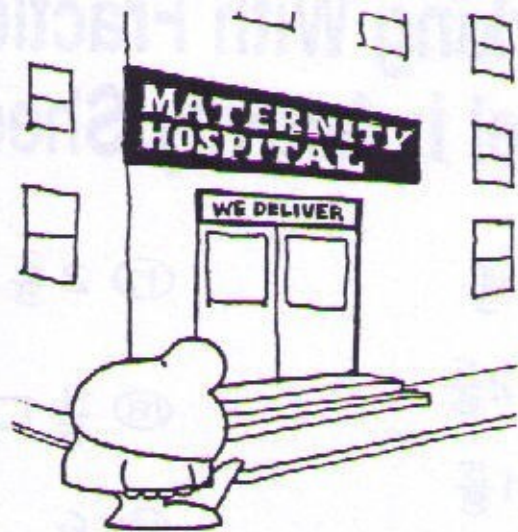
②③ $\frac{9}{14} \times 2\frac{1}{3}$ ②④ $2\frac{2}{3} \times 1\frac{1}{2}$

Divide

②⑤ $\frac{4}{5} \div \frac{1}{3}$ ②⑥ $\frac{3}{4} \div 6$

②⑦ $1\frac{2}{3} \div 1\frac{3}{7}$ ②⑧ $4 \div 1\frac{5}{7}$

②⑨ $1\frac{1}{4} \div 1\frac{7}{8}$ ③⑩ $2\frac{1}{4} \div 1\frac{1}{5}$



STATE THE RULES FOR DIVIDING FRACTIONS



Working With Fractions

Level I: Activity Sheet

① $5\frac{2}{5} - 1\frac{2}{3}$

⑰ $2\frac{2}{3} \square \frac{13}{5}$

③② $9\frac{1}{5} + 9\frac{2}{3}$

② $8\frac{1}{4} - 2\frac{5}{6}$

⑱ $\frac{9}{5} \square 1\frac{2}{3}$

③③ $8 - 2\frac{4}{7}$

③ $9 - 4\frac{5}{8}$

⑲ $\frac{6}{9} = \frac{n}{12}$

③④ $12 - 3\frac{1}{5}$

④ $7 - 2\frac{7}{9}$

⑳ $\frac{6}{15} = \frac{4}{n}$

③⑤ $3\frac{3}{5} \square \frac{7}{2}$

⑤ $10\frac{2}{9} - 4\frac{5}{6}$

㉑ $6\frac{2}{3} - 2\frac{3}{8}$

③⑥ $\frac{4}{12} = \frac{n}{9}$

⑥ $9\frac{2}{3} - 5\frac{3}{4}$

㉒ $5\frac{1}{2} - 1\frac{2}{5}$

⑦ $6\frac{5}{8} + 8\frac{5}{6}$

㉓ $8\frac{1}{6} - 2\frac{1}{4}$

⑧ $5\frac{2}{5} + 8\frac{7}{10}$

㉔ $7\frac{3}{8} - 3\frac{3}{4}$

⑨ $8\frac{3}{4} + 2\frac{5}{6}$

㉕ $8\frac{1}{3} - 1\frac{5}{6}$

⑩ $6\frac{7}{8} + 3\frac{1}{6}$

㉖ $7\frac{3}{4} - 4\frac{5}{6}$

⑪ $\frac{18}{30} =$ reduced fraction

㉗ $5\frac{2}{7} - 1\frac{2}{3}$

⑫ $\frac{20}{35} =$ reduced fraction

㉘ $9\frac{1}{5} - 2\frac{1}{4}$

⑬ $2\frac{2}{3} =$ improper fraction

㉙ $10\frac{5}{8} - 4\frac{3}{4}$

⑭ $4\frac{3}{5} =$ improper fraction

⑳ $8\frac{2}{9} - 6\frac{5}{6}$

⑮ $\frac{18}{8} =$ mixed numeral

㉚ $4\frac{7}{8} + 5\frac{1}{6}$

⑯ $\frac{30}{12} =$ mixed numeral

