

# *Working With Fractions*



**Level I: Answer Key**

# Reducing & Renaming Fractions

## PROBLEM SET #1

$$\textcircled{1} \frac{4}{8} = \frac{1}{2}$$

$$\textcircled{13} \frac{9}{12} = \frac{3}{4}$$

$$\textcircled{2} \frac{5}{15} = \frac{1}{3}$$

$$\textcircled{14} \frac{3}{14} = \frac{3}{14}$$

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

$$\textcircled{15} \frac{9}{15} = \frac{3}{5}$$

$$\textcircled{4} \frac{6}{9} = \frac{2}{3}$$

$$\textcircled{16} 1\frac{2}{3} = \frac{5}{3}$$

$$\textcircled{5} \frac{8}{12} = \frac{2}{3}$$

$$\textcircled{17} 2\frac{1}{2} = \frac{5}{2}$$

$$\textcircled{6} \frac{6}{8} = \frac{3}{4}$$

$$\textcircled{18} 1\frac{3}{4} = \frac{7}{4}$$

$$\textcircled{7} \frac{10}{15} = \frac{2}{3}$$

$$\textcircled{19} 4\frac{3}{5} = \frac{23}{5}$$

$$\textcircled{8} \frac{7}{14} = \frac{1}{2}$$

$$\textcircled{20} 3\frac{1}{3} = \frac{10}{3}$$

$$\textcircled{9} \frac{15}{25} = \frac{3}{5}$$

$$\textcircled{21} 4\frac{2}{7} = \frac{30}{7}$$

$$\textcircled{10} \frac{5}{8} = \frac{5}{8}$$

$$\textcircled{22} 2\frac{3}{4} = \frac{11}{4}$$

$$\textcircled{11} \frac{12}{15} = \frac{4}{5}$$

$$\textcircled{23} 3\frac{1}{5} = \frac{16}{5}$$

$$\textcircled{12} \frac{20}{25} = \frac{4}{5}$$

$$\textcircled{24} 4\frac{1}{2} = \frac{9}{2}$$

$$\textcircled{25} 6\frac{1}{4} = \frac{25}{4}$$

$$\textcircled{26} 4\frac{4}{5} = \frac{24}{5}$$

$$\textcircled{27} 1\frac{7}{8} = \frac{15}{8}$$

$$\textcircled{28} 2\frac{5}{6} = \frac{17}{6}$$

$$\textcircled{29} 1\frac{1}{7} = \frac{8}{7}$$

$$\textcircled{30} 2\frac{5}{8} = \frac{21}{8}$$

$$\textcircled{31} \frac{5}{4} = 1\frac{1}{4}$$

$$\textcircled{32} \frac{8}{6} = 1\frac{2}{6} = 1\frac{1}{3}$$

$$\textcircled{33} \frac{12}{5} = 2\frac{2}{5}$$

$$\textcircled{34} \frac{15}{6} = 2\frac{3}{6} = 2\frac{1}{2}$$

$$\textcircled{35} \frac{14}{4} = 3\frac{2}{4} = 3\frac{1}{2}$$

$$\textcircled{36} \frac{9}{5} = 1\frac{4}{5}$$

$$\textcircled{37} \frac{12}{6} = 2$$

$$\textcircled{38} \frac{7}{2} = 3\frac{1}{2}$$

$$\textcircled{39} \frac{10}{4} = 2\frac{2}{4} = 2\frac{1}{2}$$

$$\textcircled{40} \frac{20}{5} = 4$$

$$\textcircled{41} \frac{3}{2} = 1\frac{1}{2}$$

$$\textcircled{42} \frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3}$$

$$\textcircled{43} \frac{12}{8} = 1\frac{4}{8} = 1\frac{1}{2}$$

$$\textcircled{44} \frac{9}{3} = 3$$

$$\textcircled{45} \frac{15}{12} = 1\frac{3}{12} = 1\frac{1}{4}$$



# Comparing Fractions & Equivalent Fractions

## PROBLEM SET #2

$$\textcircled{1} \quad \frac{2}{3} > \frac{1}{2}$$

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

$$\textcircled{3} \quad \frac{4}{9} > \frac{3}{7}$$

$$\textcircled{4} \quad \frac{2}{5} < \frac{4}{9}$$

$$\textcircled{5} \quad \frac{3}{8} < \frac{2}{5}$$

$$\textcircled{6} \quad \frac{2}{3} > \frac{7}{4}$$

$$\frac{5}{3} < \frac{7}{4}$$

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

$$\frac{7}{3} < \frac{12}{5}$$

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

$$\frac{8}{3} > \frac{9}{4}$$

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

$$\frac{7}{4} = \frac{7}{4}$$

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

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

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

$$30 \div 5 = 6$$

$$n = 6$$

$$\textcircled{12} \quad \frac{3}{4} = \frac{n}{12} \quad 36 \div 4 = 9$$

$$n = 9$$

$$\textcircled{13} \quad \frac{n}{7} = \frac{4}{14} \quad 28 \div 14 = 2$$

$$n = 2$$

$$\textcircled{14} \quad \frac{6}{n} = \frac{2}{3} \quad 18 \div 2 = 9$$

$$n = 9$$

$$\textcircled{15} \quad \frac{3}{n} = \frac{2}{8} \quad 24 \div 2 = 12$$

$$n = 12$$

$$\textcircled{16} \quad \frac{4}{6} = \frac{n}{9} \quad 36 \div 6 = 6$$

$$n = 6$$

$$\textcircled{17} \quad \frac{n}{15} = \frac{2}{6} \quad 30 \div 6 = 5$$

$$n = 5$$

$$\textcircled{18} \quad \frac{6}{n} = \frac{3}{4} \quad 24 \div 3 = 8$$

$$n = 8$$

$$\textcircled{19} \quad \frac{9}{12} = \frac{6}{n} \quad 72 \div 9 = 8$$

$$n = 8$$

$$\textcircled{20} \quad \frac{4}{6} = \frac{n}{15} \quad 60 \div 6 = 10$$

$$n = 10$$

$$\textcircled{21} \quad \frac{12}{36} = \frac{1}{3} \quad \textcircled{27} \quad \frac{16}{12} = 1\frac{4}{12} = 1\frac{1}{3}$$

$$\textcircled{22} \quad \frac{15}{18} = \frac{5}{6} \quad \textcircled{28} \quad \frac{8}{6} = 1\frac{2}{6} = 1\frac{1}{3}$$

$$\textcircled{23} \quad \frac{25}{30} = \frac{5}{6} \quad \textcircled{29} \quad \frac{15}{5} = 3$$

$$\textcircled{24} \quad 4\frac{1}{4} = \frac{17}{4}$$

$$\textcircled{25} \quad 2\frac{4}{5} = \frac{14}{5}$$

$$\textcircled{26} \quad 3\frac{3}{4} = \frac{15}{4}$$

... AND I NEVER SEEM TO BE ABLE TO HOLD ANYONE'S ATTENTION..



# Adding & Subtracting With Like Denominators

## PROBLEM SET #3

$$\textcircled{1} \begin{array}{r} \frac{2}{5} \\ + \frac{1}{5} \\ \hline \frac{3}{5} \end{array}$$

$$\textcircled{6} \begin{array}{r} \frac{4}{5} \\ + \frac{1}{5} \\ \hline 1 \end{array}$$

$$\textcircled{2} \begin{array}{r} \frac{4}{7} \\ + \frac{2}{7} \\ \hline \frac{6}{7} \end{array}$$

$$\textcircled{7} \begin{array}{r} \frac{2}{9} \\ + \frac{5}{9} \\ \hline \frac{7}{9} \end{array}$$

$$\textcircled{3} \begin{array}{r} \frac{5}{8} \\ + \frac{4}{8} \\ \hline \frac{9}{8} = 1\frac{1}{8} \end{array}$$

$$\textcircled{8} \begin{array}{r} \frac{5}{6} \\ + \frac{5}{6} \\ \hline \frac{10}{6} = 1\frac{4}{6} = 1\frac{2}{3} \end{array}$$

$$\textcircled{4} \begin{array}{r} \frac{3}{7} \\ + \frac{6}{7} \\ \hline \frac{9}{7} = 1\frac{2}{7} \end{array}$$

$$\textcircled{9} \begin{array}{r} \frac{7}{8} \\ + \frac{3}{8} \\ \hline \frac{10}{8} = 1\frac{2}{8} = 1\frac{1}{4} \end{array}$$

$$\textcircled{5} \begin{array}{r} \frac{5}{9} \\ + \frac{7}{9} \\ \hline \frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3} \end{array}$$

$$\textcircled{10} \begin{array}{r} \frac{5}{6} \\ + \frac{1}{6} \\ \hline \frac{6}{6} = 1 \end{array}$$

$$\textcircled{11} \begin{array}{r} \frac{3}{4} \\ + \frac{3}{4} \\ \hline \frac{6}{4} = 1\frac{2}{4} = 1\frac{1}{2} \end{array}$$

$$\textcircled{16} \begin{array}{r} \frac{5}{6} \\ - \frac{1}{6} \\ \hline \frac{4}{6} = \frac{2}{3} \end{array}$$

$$\textcircled{12} \begin{array}{r} \frac{7}{10} \\ + \frac{8}{10} \\ \hline \frac{15}{10} = 1\frac{5}{10} = 1\frac{1}{2} \end{array}$$

$$\textcircled{17} \begin{array}{r} \frac{11}{12} \\ - \frac{2}{12} \\ \hline \frac{9}{12} = \frac{3}{4} \end{array}$$

$$\textcircled{13} \begin{array}{r} \frac{4}{9} \\ + \frac{8}{9} \\ \hline \frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3} \end{array}$$

$$\textcircled{18} \begin{array}{r} \frac{7}{8} \\ - \frac{3}{8} \\ \hline \frac{4}{8} = \frac{1}{2} \end{array}$$

$$\textcircled{14} \begin{array}{r} \frac{5}{12} \\ + \frac{11}{12} \\ \hline \frac{16}{12} = 1\frac{4}{12} = 1\frac{1}{3} \end{array}$$

$$\textcircled{19} \begin{array}{r} \frac{3}{7} \\ - \frac{3}{7} \\ \hline \frac{0}{7} = 0 \end{array}$$

$$\textcircled{15} \begin{array}{r} \frac{9}{10} \\ - \frac{5}{10} \\ \hline \frac{4}{10} = \frac{2}{5} \end{array}$$

$$\textcircled{20} \begin{array}{r} \frac{15}{16} \\ - \frac{7}{16} \\ \hline \frac{8}{16} = \frac{1}{2} \end{array}$$



$$\textcircled{21} \frac{16}{20} = \frac{4}{5} \quad \textcircled{22} \frac{9}{18} = \frac{1}{2} \quad \textcircled{23} \frac{18}{24} = \frac{3}{4}$$

$$\textcircled{24} 3\frac{2}{7} = \frac{23}{7} \quad \textcircled{25} \frac{14}{8} = 1\frac{6}{8} = 1\frac{3}{4}$$

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

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

$$\textcircled{28} \frac{72}{n} = \frac{9}{12} \quad 72 \div 9 = 8$$

$$n = 8$$

$$\textcircled{29} \frac{90}{6} = \frac{n}{18} \quad 90 \div 6 = 15$$

$$n = 15$$

$$\textcircled{5} \begin{array}{r} 3 \times 5 \quad 15 \\ 4 \times 5 \quad 20 \\ + 7 \times 2 \quad 14 \\ + 10 \times 2 \quad 20 \\ \hline 29 \\ 20 = 1\frac{9}{20} \end{array}$$

$$\textcircled{10} \begin{array}{r} 5 \times 2 \quad 10 \\ 12 \times 2 \quad 24 \\ 7 \times 3 \quad 21 \\ + 8 \times 3 \quad 24 \\ \hline 31 \\ 24 = 1\frac{7}{24} \end{array}$$

$$\textcircled{6} \begin{array}{r} 3 \times 3 \quad 9 \\ 8 \times 3 \quad 24 \\ 5 \times 4 \quad 20 \\ + 6 \times 4 \quad 24 \\ \hline 29 \\ 24 = 1\frac{5}{24} \end{array}$$

$$\textcircled{11} \begin{array}{r} 3 \times 6 \quad 18 \\ 5 \times 6 \quad 30 \\ 1 \times 5 \quad 5 \\ + 6 \times 5 \quad 30 \\ \hline 23 \\ 30 \end{array}$$

$$\textcircled{7} \begin{array}{r} 7 \times 3 \quad 21 \\ 8 \times 3 \quad 24 \\ 1 \times 4 \quad 4 \\ + 6 \times 4 \quad 24 \\ \hline 25 \\ 24 = 1\frac{1}{24} \end{array}$$

$$\textcircled{12} \begin{array}{r} 5 \times 2 \quad 10 \\ 7 \times 2 \quad 14 \\ 12 \times 1 \quad 12 \\ + 14 \times 1 \quad 14 \\ \hline 22 \\ 14 = 1\frac{4}{7} \end{array}$$

$$\textcircled{8} \begin{array}{r} 5 \times 2 \quad 10 \\ 6 \times 2 \quad 12 \\ 3 \times 3 \quad 9 \\ + 4 \times 3 \quad 12 \\ \hline 19 \\ 12 = 1\frac{7}{12} \end{array}$$

$$\textcircled{13} \begin{array}{r} 5 \times 1 \quad 5 \\ 8 \times 1 \quad 8 \\ 1 \times 2 \quad 2 \\ + 4 \times 2 \quad 8 \\ \hline 7 \\ 8 \end{array}$$

$$\textcircled{9} \begin{array}{r} 4 \times 4 \quad 16 \\ 5 \times 4 \quad 20 \\ 3 \times 5 \quad 15 \\ + 4 \times 5 \quad 20 \\ \hline 31 \\ 20 = 1\frac{11}{20} \end{array}$$

$$\textcircled{14} \begin{array}{r} 4 \times 4 \quad 16 \\ 6 \times 4 \quad 24 \\ 2 \times 3 \quad 6 \\ + 8 \times 3 \quad 24 \\ \hline 22 \\ 24 = \frac{11}{12} \end{array}$$

## Adding Fractions With Unlike Denominators

### PROBLEM SET #4

$$\textcircled{1} \begin{array}{r} 1 \times 3 \quad 3 \\ 4 \times 3 \quad 12 \\ + 1 \times 4 \quad 4 \\ + 3 \times 4 \quad 12 \\ \hline 7 \\ 12 \end{array}$$

$$\textcircled{3} \begin{array}{r} 4 \times 2 \quad 8 \\ 9 \times 2 \quad 18 \\ + 1 \times 3 \quad 3 \\ + 6 \times 3 \quad 18 \\ \hline 11 \\ 18 \end{array}$$

$$\textcircled{2} \begin{array}{r} 2 \times 5 \quad 10 \\ 3 \times 5 \quad 15 \\ 1 \times 3 \quad 3 \\ + 5 \times 3 \quad 15 \\ \hline 13 \\ 15 \end{array}$$

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





$$\begin{array}{r} \textcircled{13} \quad 2\frac{3}{5} \times 4 \quad 2\frac{12}{20} \\ + 3\frac{3}{4} \times 5 \quad + 3\frac{15}{20} \\ \hline 5\frac{27}{20} = 6\frac{7}{20} \end{array}$$

$$\begin{array}{r} \textcircled{14} \quad 5\frac{7}{8} \times 3 \quad 5\frac{21}{24} \\ + 2\frac{1}{6} \times 4 \quad + 2\frac{4}{24} \\ \hline 7\frac{25}{24} = 8\frac{1}{24} \end{array}$$

$$\begin{array}{r} \textcircled{15} \quad 4\frac{3}{4} \times 2 \quad 4\frac{6}{8} \\ + 2\frac{3}{8} \times 1 \quad + 2\frac{3}{8} \\ \hline 6\frac{9}{8} = 7\frac{1}{8} \end{array}$$

$$\begin{array}{r} \textcircled{16} \quad 4\frac{1}{3} \times 2 \quad 4\frac{2}{6} \\ + 2\frac{5}{6} \times 1 \quad + 2\frac{5}{6} \\ \hline 6\frac{7}{6} = 7\frac{1}{6} \end{array}$$

$$\textcircled{17} \quad \frac{21}{28} = \frac{3}{4}$$

$$\textcircled{24} \quad \frac{10}{3} = 3\frac{1}{3}$$

$$\textcircled{18} \quad \frac{16}{24} = \frac{2}{3}$$

$$\frac{10}{3} > \frac{13}{4}$$

$$\textcircled{19} \quad \frac{4}{14} = \frac{2}{7}$$

$$\textcircled{25} \quad \frac{72}{n} = \frac{9}{6}$$

$$\textcircled{20} \quad 5\frac{1}{3} = \frac{16}{3}$$

$$72 \div 9 = 8$$

$$\textcircled{21} \quad \frac{12}{8} = 1\frac{1}{2}$$

$$n = 8$$

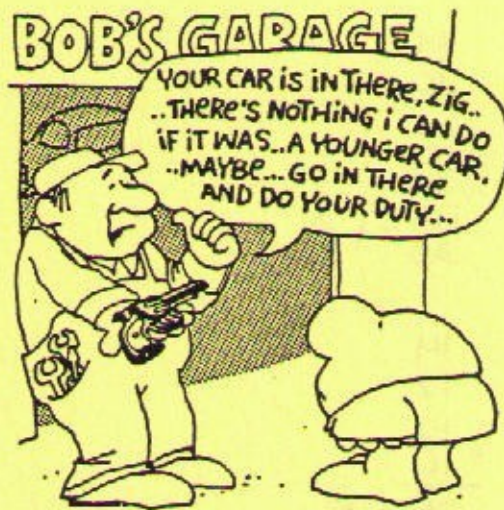
$$\textcircled{22} \quad \frac{16}{6} = 2\frac{2}{3}$$

$$\textcircled{26} \quad \frac{60}{n} = \frac{6}{15}$$

$$\begin{array}{r} \textcircled{23} \quad 2\frac{3}{4} \quad \frac{5}{2} \\ \frac{11}{4} > \frac{5}{2} \end{array}$$

$$60 \div 15 = 4$$

$$n = 4$$



## Subtracting Fractions & Mixed Numerals

### PROBLEM SET #6

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

$$\begin{array}{r} \textcircled{3} \quad \frac{5}{8} \times 1 \quad \frac{5}{8} \\ - \frac{1}{2} \times 4 \quad - \frac{4}{8} \\ \hline - \frac{2}{8} \times 4 \quad - \frac{8}{8} \\ \hline \frac{1}{8} \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad \frac{3}{5} \times 3 \quad \frac{9}{15} \\ - \frac{1}{3} \times 5 \quad - \frac{5}{15} \\ \hline - \frac{3}{15} \times 5 \quad - \frac{15}{15} \\ \hline \frac{4}{15} \end{array}$$

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

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

$$\begin{array}{r} \textcircled{13} \quad 6\frac{3}{4} \times 3 \quad 6\frac{9}{12} \\ -2\frac{2}{3} \times 4 \quad -2\frac{8}{12} \\ \hline 4\frac{1}{12} \end{array}$$

$$\begin{array}{r} \textcircled{25} \quad 2\frac{1}{4} \times 3 \quad 2\frac{3}{12} \\ +3\frac{5}{6} \times 2 \quad +3\frac{10}{12} \\ \hline 5\frac{13}{12} = 6\frac{1}{12} \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 4\frac{4}{5} \times 3 \quad 4\frac{12}{15} \\ -2\frac{2}{3} \times 5 \quad -2\frac{10}{15} \\ \hline 2\frac{2}{15} \end{array}$$

$$\begin{array}{r} \textcircled{14} \quad 8\frac{4}{5} \times 4 \quad 8\frac{16}{20} \\ -5\frac{3}{4} \times 5 \quad -5\frac{15}{20} \\ \hline 3\frac{1}{20} \end{array}$$

$$\begin{array}{r} \textcircled{26} \quad 4\frac{1}{2} \times 7 \quad 4\frac{7}{14} \\ +3\frac{4}{7} \times 2 \quad +3\frac{8}{14} \\ \hline 7\frac{15}{14} = 8\frac{1}{14} \end{array}$$

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

$$\begin{array}{r} \textcircled{15} \quad 4\frac{5}{6} \times 2 \quad 4\frac{10}{12} \\ -1\frac{3}{4} \times 3 \quad -1\frac{9}{12} \\ \hline 3\frac{1}{12} \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 9\frac{3}{4} \times 5 \quad 9\frac{15}{20} \\ -4\frac{2}{5} \times 4 \quad -4\frac{8}{20} \\ \hline 5\frac{7}{20} \end{array}$$

$$\begin{array}{r} \textcircled{16} \quad 7\frac{3}{5} \times 3 \quad 7\frac{9}{15} \\ -4\frac{1}{3} \times 5 \quad -4\frac{5}{15} \\ \hline 3\frac{4}{15} \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 8\frac{7}{8} \times 5 \quad 8\frac{35}{40} \\ -3\frac{2}{5} \times 8 \quad -3\frac{16}{40} \\ \hline 5\frac{19}{40} \end{array}$$

$$\textcircled{17} \quad \frac{15}{45} = \frac{1}{3} \quad \textcircled{18} \quad \frac{18}{30} = \frac{3}{5}$$

$$\begin{array}{r} \textcircled{10} \quad 7\frac{2}{3} \times 7 \quad 7\frac{14}{21} \\ -1\frac{2}{7} \times 3 \quad -1\frac{6}{21} \\ \hline 6\frac{8}{21} \end{array}$$

$$\textcircled{19} \quad \frac{24}{32} = \frac{3}{4} \quad \textcircled{20} \quad \frac{17}{34} = \frac{1}{2}$$

$$\textcircled{21} \quad 4\frac{3}{4} = \frac{19}{4} \quad \textcircled{22} \quad \frac{18}{10} = 1\frac{4}{5}$$

$$\begin{array}{r} \textcircled{11} \quad 5\frac{3}{4} \times 3 \quad 5\frac{9}{12} \\ -2\frac{1}{6} \times 2 \quad -2\frac{2}{12} \\ \hline 3\frac{7}{12} \end{array}$$

$$\textcircled{23} \quad 3\frac{1}{5} \quad \frac{10}{3}$$

$${}^{48} \frac{16}{5} < \frac{16}{3} {}^{50}$$

$$\begin{array}{r} \textcircled{12} \quad 4\frac{2}{3} \times 2 \quad 4\frac{4}{6} \\ -1\frac{1}{2} \times 3 \quad -1\frac{3}{6} \\ \hline 3\frac{1}{6} \end{array}$$

$$\textcircled{24} \quad \frac{30}{6} = \frac{5}{15} \quad {}^{30}$$

$$30 \div 15 = 2$$

$$n = 2$$

## Subtracting Fractions With Borrowing

### PROBLEM SET #7

$$\begin{array}{r} \textcircled{1} \quad 6\frac{1}{4} \times 3 \quad 6\frac{3}{12} \quad \text{borrow} \\ -2\frac{2}{3} \times 4 \quad -2\frac{8}{12} \quad \frac{12}{12} \\ \hline 3\frac{7}{12} \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 5\frac{3}{8} \times 1 \quad 5\frac{3}{8} \quad \text{borrow} \\ -3\frac{1}{2} \times 4 \quad -3\frac{4}{8} \quad \frac{8}{8} \\ \hline 1\frac{7}{8} \end{array}$$

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



$$\textcircled{5} \begin{array}{r} 6\frac{1}{6} \times 2 \\ -1\frac{3}{4} \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{2}{12} \\ -1\frac{9}{12} \\ \hline 4\frac{5}{12} \end{array}$$

$$\textcircled{11} \begin{array}{r} 8\frac{1}{4} \times 5 \\ -6\frac{3}{5} \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7\frac{25}{20} \\ -6\frac{12}{20} \\ \hline 1\frac{13}{20} \end{array}$$

$$\textcircled{17} \frac{20}{28} = \frac{5}{7}$$

$$\textcircled{18} 5\frac{2}{3} = \frac{17}{3}$$

$$\textcircled{19} \frac{24}{14} = 1\frac{5}{7}$$

$$\textcircled{6} \begin{array}{r} 8\frac{3}{5} \times 3 \\ -2\frac{1}{3} \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8\frac{9}{15} \\ -2\frac{5}{15} \\ \hline 6\frac{4}{15} \end{array}$$

$$\textcircled{12} \begin{array}{r} 7\frac{7}{7} \\ -2\frac{2}{7} \\ \hline 5\frac{5}{7} \end{array}$$

$$\textcircled{20} 2\frac{1}{4} \frac{7}{3}$$

$${}^{27}\frac{9}{4} < \frac{7}{3}{}^{28}$$

$$\textcircled{7} \begin{array}{r} 5\frac{2}{3} \times 2 \\ -3\frac{1}{2} \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{4}{6} \\ -3\frac{3}{6} \\ \hline 2\frac{1}{6} \end{array}$$

$$\textcircled{13} \begin{array}{r} 6\frac{2}{3} \times 8 \\ -3\frac{7}{8} \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{40}{24} \\ -3\frac{21}{24} \\ \hline 2\frac{19}{24} \end{array}$$

$$\textcircled{21} \frac{45}{n} = \frac{9^{45}}{15}$$

$$45 \div 9 = 5$$

$$n = 5$$

$$\textcircled{8} \begin{array}{r} 4\frac{3}{7} \times 4 \\ -1\frac{3}{4} \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3\frac{40}{28} \\ -1\frac{21}{28} \\ \hline 2\frac{19}{28} \end{array}$$

$$\textcircled{14} \begin{array}{r} 5\frac{1}{5} \times 3 \\ -3\frac{1}{3} \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4\frac{18}{15} \\ -3\frac{5}{15} \\ \hline 1\frac{13}{15} \end{array}$$

$$\textcircled{22} \begin{array}{r} 4\frac{1}{3} \times 5 \\ +1\frac{4}{5} \times 3 \\ \hline \end{array} \quad \begin{array}{r} 4\frac{5}{15} \\ +1\frac{12}{15} \\ \hline 3\frac{17}{15} = 4\frac{2}{15} \end{array}$$

$$\textcircled{9} \begin{array}{r} 6\frac{3}{4} \times 3 \\ -2\frac{5}{6} \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{9}{12} \\ -2\frac{10}{12} \\ \hline 3\frac{11}{12} \end{array}$$

$$\textcircled{15} \begin{array}{r} 9\frac{3}{4} \times 2 \\ -4\frac{7}{8} \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8\frac{14}{8} \\ -4\frac{7}{8} \\ \hline 4\frac{7}{8} \end{array}$$

$$\textcircled{23} \begin{array}{r} 6\frac{1}{2} \times 3 \\ +4\frac{2}{3} \times 2 \\ \hline \end{array} \quad \begin{array}{r} 6\frac{3}{6} \\ +4\frac{4}{6} \\ \hline 10\frac{7}{6} = 11\frac{1}{6} \end{array}$$

$$\textcircled{10} \begin{array}{r} 3\frac{3}{10} \times 1 \\ -1\frac{4}{5} \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2\frac{3}{10} \\ -1\frac{8}{10} \\ \hline 1\frac{5}{10} = \frac{1}{2} \end{array}$$

$$\textcircled{16} \begin{array}{r} 5\frac{5}{5} \\ -3\frac{4}{5} \\ \hline 2\frac{1}{5} \end{array}$$

IN THE  
YELLOW PAGES  
OF LIFE  
...IM LISTED UNDER  
MISCELLANEOUS!!



# Multiplying Fractions



$$\begin{array}{r} \textcircled{23} \quad 5\frac{2}{5} \times 4 \quad 5\frac{8}{20} \\ + 4\frac{3}{4} \times 5 \quad + 4\frac{15}{20} \\ \hline \quad \quad \quad \quad \quad 9\frac{23}{20} = 10\frac{3}{20} \end{array}$$

$$\begin{array}{r} \textcircled{24} \quad 4\frac{1}{4} \times 5 \quad 4\frac{5}{20} \\ - 2\frac{3}{5} \times 4 \quad - 2\frac{12}{20} \\ \hline \quad \quad \quad \quad \quad 1\frac{13}{20} \end{array}$$

$$\begin{array}{r} \textcircled{25} \quad 6\frac{1}{3} \times 2 \quad 6\frac{2}{6} \\ - 1\frac{1}{2} \times 3 \quad - 1\frac{3}{6} \\ \hline \quad \quad \quad \quad \quad 4\frac{5}{6} \end{array}$$

## Multiplying Fractions With Cross Reducing

### PROBLEM SET #9

$$\textcircled{1} \quad \frac{36}{48} \times \frac{5}{9} \quad \textcircled{4} \quad \frac{26}{17} \times \frac{214}{515} = \frac{4}{5}$$

$$\frac{13}{4} \times \frac{5}{39} = \frac{5}{12} \quad \textcircled{5} \quad \frac{220}{321} \times \frac{17}{330} = \frac{2}{9}$$

$$\textcircled{2} \quad \frac{14}{18} \times \frac{315}{416} = \frac{3}{4} \quad \textcircled{6} \quad \frac{18}{525} \times \frac{315}{216} = \frac{3}{10}$$

$$\textcircled{3} \quad \frac{18}{11} \times \frac{222}{324} = \frac{2}{3} \quad \textcircled{7} \quad \frac{14}{17} \times \frac{17}{342} = \frac{1}{3}$$

YOU REALLY KNOW  
YOU'RE A LOSER WHEN  
THE ONLY MAIL YOU GET  
IS ADDRESSED  
"OCCUPANT."

### PROBLEM SET #8

$$\textcircled{1} \quad \frac{2}{3} \times \frac{1}{5} = \frac{2}{15}$$

$$\textcircled{2} \quad \frac{3}{4} \times \frac{3}{5} = \frac{9}{20}$$

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

$$\textcircled{4} \quad \frac{2}{7} \times \frac{1}{3} = \frac{2}{21}$$

$$\textcircled{5} \quad \frac{3}{4} \times \frac{2}{3} = \frac{6}{12} = \frac{1}{2}$$

$$\textcircled{6} \quad \frac{2}{5} \times \frac{3}{8} = \frac{6}{40} = \frac{3}{20}$$

$$\textcircled{7} \quad \frac{4}{5} \times \frac{1}{6} = \frac{4}{30} = \frac{2}{15}$$

$$\textcircled{8} \quad \frac{2}{3} \times 5 = \frac{10}{3} = 3\frac{1}{3}$$

$$\textcircled{9} \quad \frac{3}{5} \times 3 = \frac{9}{5} = 1\frac{4}{5}$$

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

$$\textcircled{11} \quad 6 \times \frac{3}{4} = \frac{18}{4} = 4\frac{1}{2}$$

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

$$\textcircled{13} \quad \frac{4}{5} \times \frac{5}{6} = \frac{20}{30} = \frac{2}{3}$$

$$\textcircled{14} \quad \frac{2}{3} \times \frac{1}{2} = \frac{2}{6} = \frac{1}{3}$$

$$\textcircled{15} \quad \frac{4}{7} \times \frac{7}{8} = \frac{28}{56} = \frac{1}{2}$$

$$\textcircled{16} \quad \frac{3}{4} \times \frac{8}{9} = \frac{24}{36} = \frac{2}{3}$$

$$\textcircled{17} \quad \frac{20}{25} = \frac{4}{5}$$

$$\textcircled{18} \quad 2\frac{5}{6} = \frac{17}{6}$$

$$\textcircled{19} \quad \frac{24}{10} = 2\frac{2}{5}$$

$$\textcircled{20} \quad 1\frac{4}{5} > \frac{7}{4}$$

$\frac{36}{5} > \frac{35}{4}$

$$\textcircled{21} \quad \frac{4}{n} = \frac{3}{12}$$

$48 \div 3 = 16$   
 $n = 16$

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

$+ 2\frac{2 \times 2}{3 \times 2} \quad + 2\frac{4}{6}$   
 $5\frac{7}{6} = 6\frac{1}{6}$

# Multiplying Mixed Numerals

## PROBLEM SET #10

$$\textcircled{8} \quad \frac{13}{5} \times \frac{8}{39} = \frac{8}{15}$$

$$\textcircled{9} \quad 4\frac{12}{15} \times \frac{1}{5} = \frac{4}{25}$$

$$\textcircled{10} \quad 2\frac{14}{15} \times \frac{210}{321} = \frac{4}{9}$$

$$\textcircled{11} \quad \frac{5}{6} \times \frac{17}{24} = \frac{5}{12}$$

$$\textcircled{12} \quad 2\frac{22}{25} \times \frac{15}{33} = \frac{2}{15}$$

$$\textcircled{13} \quad 3\frac{9}{12} \times \frac{15}{210} = \frac{3}{8}$$

$$\textcircled{14} \quad 2\frac{8}{39} \times \frac{13}{14} = \frac{2}{3}$$

$$\textcircled{15} \quad \frac{15}{26} \times \frac{39}{13}$$

$$\frac{1}{2} \times \frac{13}{13} = \frac{1}{2}$$

$$\textcircled{16} \quad 4\frac{8}{10} \times \frac{515}{824}$$

$$\frac{14}{15} \times \frac{15}{28} = \frac{1}{2}$$

$$\textcircled{17} \quad 4\frac{1}{2} = \frac{9}{2}$$

$$\textcircled{18} \quad 8\frac{2}{3} = \frac{26}{3}$$

$$\textcircled{19} \quad 6\frac{3}{4} = \frac{27}{4}$$

$$\textcircled{20} \quad \begin{array}{r} 4\frac{1}{3} \times 4 \\ \phantom{4\frac{1}{3}} \times 4 \\ \hline -2\frac{3}{4} \times 3 \\ \phantom{-2\frac{3}{4}} \times 3 \\ \hline \phantom{-2\frac{3}{4}} \phantom{\times 3} \\ \phantom{-2\frac{3}{4}} \phantom{\times 3} \\ \hline 1\frac{7}{12} \end{array}$$

$$\textcircled{21} \quad \begin{array}{r} 6\frac{3}{8} \times 3 \\ \phantom{6\frac{3}{8}} \times 3 \\ \hline -2\frac{5}{6} \times 4 \\ \phantom{-2\frac{5}{6}} \times 4 \\ \hline 3\frac{13}{24} \end{array}$$

$$\textcircled{22} \quad \begin{array}{r} 7\frac{1}{4} \times 5 \\ \phantom{7\frac{1}{4}} \times 5 \\ \hline -1\frac{4}{5} \times 4 \\ \phantom{-1\frac{4}{5}} \times 4 \\ \hline 5\frac{9}{20} \end{array}$$

$$\textcircled{23} \quad \begin{array}{r} 9\frac{1}{2} \times 3 \\ \phantom{9\frac{1}{2}} \times 3 \\ \hline -5\frac{2}{3} \times 2 \\ \phantom{-5\frac{2}{3}} \times 2 \\ \hline 3\frac{5}{6} \end{array}$$



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

$$2\frac{4}{3} \times \frac{7}{2} = \frac{14}{3} = 4\frac{2}{3}$$

$$\textcircled{2} \quad 2\frac{1}{4} \times 1\frac{1}{6}$$

$$3\frac{9}{4} \times \frac{7}{26} = \frac{21}{8} = 2\frac{5}{8}$$

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

$$1\frac{5}{3} \times \frac{26}{18} = \frac{2}{1} = 2$$

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

$$3\frac{9}{2} \times \frac{48}{18} = \frac{12}{1} = 12$$

$$\textcircled{5} \quad 2\frac{1}{2} \times 6$$

$$1\frac{5}{2} \times 36 = \frac{15}{1} = 15$$

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

$$\frac{7}{4} \times 28 = \frac{14}{1} = 14$$

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

$$1\frac{7}{3} \times \frac{13}{5} = \frac{7}{5} = 1\frac{2}{5}$$

$$\textcircled{8} \quad 1\frac{5}{6} \times \frac{12}{13}$$

$$\frac{11}{6} \times \frac{12}{13} = \frac{22}{13} = 1\frac{9}{13}$$

$$\textcircled{9} \quad \frac{5}{8} \times 2\frac{2}{5}$$

$$\frac{15}{8} \times \frac{12}{5} = \frac{3}{2} = 1\frac{1}{2}$$

$$\textcircled{10} \quad \frac{6}{7} \times 4\frac{1}{3}$$

$$\frac{26}{7} \times \frac{13}{3} = \frac{26}{7} = 3\frac{5}{7}$$

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

$$\frac{7}{3} \times \frac{9}{7} = \frac{3}{1} = 3$$

$$\textcircled{12} \quad 3\frac{3}{4} \times 2\frac{2}{5}$$

$$\frac{15}{4} \times \frac{12}{5} = \frac{9}{1} = 9$$

$$\textcircled{13} \quad 12 \times 1\frac{1}{3}$$

$$4 \times 2 \times \frac{4}{3} = \frac{16}{1} = 16$$

$$\textcircled{14} \quad 3 \times 1\frac{1}{5}$$

$$3 \times \frac{6}{5} = \frac{18}{5} = 3\frac{3}{5}$$

$$\textcircled{15} \quad 1\frac{2}{3} \times 2\frac{1}{5}$$

$$\frac{18}{3} \times \frac{11}{5} = \frac{11}{3} = 3\frac{2}{3}$$

$$\textcircled{16} \quad 2\frac{2}{5} \times 2\frac{2}{9}$$

$$4\frac{12}{5} \times \frac{20}{9} = \frac{16}{3} = 5\frac{1}{3}$$

$$\textcircled{17} \quad \frac{14}{20} = \frac{7}{10}$$

$$\textcircled{18} \quad \frac{24}{32} = \frac{3}{4}$$

$$\textcircled{19} \quad \frac{25}{35} = \frac{5}{7}$$

$$\textcircled{20} \quad 3\frac{1}{4} = \frac{13}{4}$$

$$\textcircled{21} \quad \frac{16}{12} = 1\frac{1}{3}$$

$$\textcircled{22} \quad 1\frac{2}{5} \quad \frac{10}{7}$$

$$\frac{7}{5} < \frac{10}{7}$$

$$\textcircled{23} \quad \frac{36}{4} = \frac{9 \cdot 36}{12}$$

$$36 \div 12 = 3$$

$$n = 3$$

$$\textcircled{24} \quad 2\frac{3}{4} \times 5$$

$$2\frac{15}{20}$$

$$+ 1\frac{4}{5} \times 4$$

$$+ 1\frac{16}{20}$$

$$3\frac{31}{20} = 4\frac{11}{20}$$

$$\textcircled{25} \quad 6\frac{1}{3} \times 8$$

$$6\frac{8}{24}$$

$$+ 2\frac{7}{8} \times 3$$

$$+ 2\frac{21}{24}$$

$$8\frac{29}{24} = 9\frac{5}{24}$$

$$\textcircled{26} \quad 6\frac{3}{8} \times 1$$

$$5\frac{11}{8}$$

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

$$- 1\frac{6}{8}$$

$$4\frac{5}{8}$$

$$\textcircled{27} \quad 5\frac{1}{2} \times 5$$

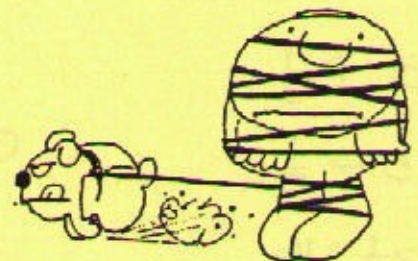
$$4\frac{5}{10}$$

$$- 2\frac{4}{5} \times 2$$

$$- 2\frac{8}{10}$$

$$2\frac{7}{10}$$

## Finding A Reciprocal



### PROBLEM SET #11

$$\textcircled{1} \quad \frac{3}{4} \rightarrow \frac{4}{3}$$

$$\textcircled{5} \quad 6 \rightarrow \frac{1}{6}$$

$$\textcircled{9} \quad 1\frac{1}{2} = \frac{3}{2} \rightarrow \frac{2}{3}$$

$$\textcircled{2} \quad \frac{2}{5} \rightarrow \frac{5}{2}$$

$$\textcircled{6} \quad 8 \rightarrow \frac{1}{8}$$

$$\textcircled{10} \quad 2\frac{2}{3} = \frac{8}{3} \rightarrow \frac{3}{8}$$

$$\textcircled{3} \quad \frac{1}{3} \rightarrow 3$$

$$\textcircled{7} \quad \frac{2}{3} \rightarrow \frac{3}{2}$$

$$\textcircled{11} \quad 3\frac{1}{4} = \frac{13}{4} \rightarrow \frac{4}{13}$$

$$\textcircled{4} \quad \frac{1}{7} \rightarrow 7$$

$$\textcircled{8} \quad \frac{4}{5} \rightarrow \frac{5}{4}$$

$$\textcircled{12} \quad 5\frac{1}{3} = \frac{16}{3} \rightarrow \frac{3}{16}$$

# Dividing Fractions

## PROBLEM SET #12

$$\textcircled{13} 4\frac{2}{5} = \frac{22}{5} \rightarrow \frac{5}{22}$$

$$\textcircled{14} 1\frac{1}{8} = \frac{9}{8} \rightarrow \frac{8}{9}$$

$$\textcircled{15} 7 \rightarrow \frac{1}{7}$$

$$\textcircled{16} 4 \rightarrow \frac{1}{4}$$

$$\textcircled{17} \frac{3}{8} \rightarrow \frac{8}{3}$$

$$\textcircled{18} \frac{5}{9} \rightarrow \frac{9}{5}$$

$$\textcircled{19} 2\frac{4}{5} = \frac{14}{5} \rightarrow \frac{5}{14}$$

$$\textcircled{20} 1\frac{5}{6} = \frac{11}{6} \rightarrow \frac{6}{11}$$

$$\textcircled{21} 1\frac{3}{4} = \frac{7}{4} \rightarrow \frac{4}{7}$$

$$\textcircled{22} 2\frac{2}{9} = \frac{20}{9} \rightarrow \frac{9}{20}$$

$$\textcircled{23} 3 \rightarrow \frac{1}{3}$$

$$\textcircled{24} 5 \rightarrow \frac{1}{5}$$

$$\textcircled{25} 3\frac{1}{4} \quad \frac{16}{5}$$

$${}^{65} \frac{13}{4} > \frac{16}{5} {}^{64}$$

$$\textcircled{26} \frac{112}{7} = \frac{n}{28}$$

$$112 \div 7 = 16$$

$$n = 16$$

$$\textcircled{27} 4\frac{2}{5} \times 6 \quad 4\frac{12}{30}$$

$$+ 2\frac{5}{6} \times 5 \quad + 2\frac{25}{30}$$

$$6\frac{37}{30} = 7\frac{7}{30}$$

$$\textcircled{28} 6\frac{1}{3} \times 4 \quad 5\frac{16}{12}$$

$$\underline{-2\frac{3}{4} \times 3} \quad \underline{-2\frac{9}{12}}$$

$$3\frac{7}{12}$$

$$\textcircled{29} 6\frac{7}{9}$$

$$\underline{-1\frac{4}{9}}$$

$$5\frac{5}{9}$$

$$\textcircled{30} 5\frac{1}{8} \times 3 \quad 4\frac{27}{24}$$

$$\underline{-1\frac{1}{6} \times 4} \quad \underline{-1\frac{4}{24}}$$

$$3\frac{23}{24}$$

$$\textcircled{31} \frac{12}{18} \times \frac{39}{510} = \frac{3}{5}$$

$$\textcircled{32} 4\frac{1}{2} \times \frac{8}{9}$$

$$\frac{19}{2} \times \frac{48}{19} = 4$$

$$\textcircled{33} 2\frac{1}{2} \times 1\frac{3}{5}$$

$$\frac{15}{2} \times \frac{48}{18} = 4$$

$$\textcircled{34} 2\frac{1}{3} \times 1\frac{2}{7}$$

$$\frac{17}{3} \times \frac{39}{17} = 3$$



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

$$\frac{2}{3} \times \frac{4}{3} = \frac{8}{9}$$

$$\textcircled{2} \frac{4}{5} \div \frac{1}{2}$$

$$\frac{4}{5} \times \frac{2}{1} = \frac{8}{5} = 1\frac{3}{5}$$

$$\textcircled{3} \frac{3}{7} \div \frac{2}{5}$$

$$\frac{3}{7} \times \frac{5}{2} = \frac{15}{14} = 1\frac{1}{14}$$

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

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

$$\textcircled{5} \frac{5}{9} \div \frac{2}{3}$$

$$\frac{5}{9} \times \frac{3}{2} = \frac{5}{6}$$

$$\textcircled{6} \frac{5}{6} \div \frac{10}{11}$$

$$\frac{18}{6} \times \frac{11}{20} = \frac{11}{12}$$

# Dividing Fractions & Mixed Numerals

## PROBLEM SET #13

$$\textcircled{7} \frac{3}{4} \div \frac{7}{8}$$

$$\frac{3}{4} \times \frac{8}{7} = \frac{6}{7}$$

$$\textcircled{8} \frac{1}{6} \div \frac{2}{3}$$

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

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

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

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

$$1\frac{7}{3} \times \frac{8}{7} = \frac{8}{3} = 2\frac{2}{3}$$

$$\textcircled{11} 3\frac{2}{3} \div \frac{1}{2}$$

$$11 \times \frac{2}{1} = \frac{22}{3} = 7\frac{1}{3}$$

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

$$1\frac{5}{2} \times \frac{4}{3} = \frac{10}{3} = 3\frac{1}{3}$$

$$\textcircled{13} 6 \div \frac{2}{3}$$

$$36 \times \frac{3}{2} = 9$$

$$\textcircled{14} 4 \div \frac{3}{5}$$

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

$$\textcircled{15} 1\frac{1}{2} \div \frac{6}{7}$$

$$1\frac{3}{2} \times \frac{7}{6} = \frac{7}{4} = 1\frac{3}{4}$$

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

$$1\frac{7}{3} \times \frac{9}{7} = 3$$

$$\textcircled{17} 5\frac{1}{2} = \frac{11}{2} \rightarrow \frac{2}{11}$$

$$\textcircled{18} 3\frac{2}{3} = \frac{11}{3} \rightarrow \frac{3}{11}$$

$$\textcircled{19} 3\frac{2}{5} \times 2 = 3\frac{4}{5}$$

$$+ 6\frac{1}{2} \times 5 = 6\frac{5}{2}$$

$$9\frac{9}{10}$$

$$\textcircled{20} 8\frac{1}{4} \times 3 = 8\frac{3}{4}$$

$$- 3\frac{2}{3} \times 4 = 3\frac{8}{3}$$

$$4\frac{7}{12}$$

$$\textcircled{21} 5\frac{2}{5} \times 4 = 4\frac{28}{5}$$

$$- 1\frac{3}{4} \times 5 = 1\frac{15}{4}$$

$$3\frac{13}{20}$$

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

$$7\frac{1}{2} \times 10\frac{1}{3} = \frac{35}{3} = 11\frac{2}{3}$$

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

$$1\frac{7}{4} \times 3\frac{2}{5} = \frac{21}{5} = 4\frac{1}{5}$$

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

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

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

$$5\frac{1}{2} \times \frac{8}{7} = \frac{20}{7} = 2\frac{6}{7}$$

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

$$1\frac{9}{5} \times \frac{1}{6} = \frac{3}{10}$$

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

$$1\frac{2}{2} \times \frac{1}{9} = \frac{1}{6}$$

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

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

$$\frac{3}{2} \times \frac{3}{4} = \frac{9}{8} = 1\frac{1}{8}$$

Use three steps



$$\begin{aligned} \textcircled{6} \quad 2\frac{1}{3} \div 1\frac{1}{2} \\ \frac{7}{3} \div \frac{3}{2} \\ \frac{7}{3} \times \frac{2}{3} = \frac{14}{9} = 1\frac{5}{9} \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad 2\frac{1}{2} \div 1\frac{7}{8} \\ \frac{5}{2} \div \frac{15}{8} \\ \frac{15}{12} \times \frac{48}{315} = \frac{4}{3} = 1\frac{1}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad 4\frac{1}{2} \div 3\frac{3}{4} \\ \frac{9}{2} \div \frac{15}{4} \\ \frac{39}{12} \times \frac{24}{515} = \frac{6}{5} = 1\frac{1}{5} \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad 8 \div 1\frac{1}{3} \\ 8 \div \frac{4}{3} \\ 28 \times \frac{3}{14} = 6 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad 5 \div 3\frac{1}{3} \\ 5 \div \frac{10}{3} \\ 15 \times \frac{3}{10} = \frac{3}{2} = 1\frac{1}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad \frac{2}{3} \div 2\frac{2}{3} \\ \frac{2}{3} \div \frac{8}{3} \\ \frac{12}{18} \times \frac{18}{48} = \frac{1}{4} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad \frac{3}{8} \div 2\frac{1}{4} \\ \frac{3}{8} \div \frac{9}{4} \\ \frac{13}{28} \times \frac{14}{39} = \frac{1}{6} \end{aligned}$$

$$\begin{aligned} \textcircled{13} \quad \frac{3}{5} \div 1\frac{1}{3} \\ \frac{8}{5} \div \frac{4}{3} \\ \frac{28}{5} \times \frac{3}{14} = \frac{6}{5} = 1\frac{1}{5} \end{aligned}$$

$$\begin{aligned} \textcircled{14} \quad 1\frac{1}{5} \div 1\frac{4}{5} \\ \frac{6}{5} \div \frac{9}{5} \\ \frac{26}{15} \times \frac{18}{39} = \frac{2}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad 2\frac{4}{5} \div 1\frac{2}{5} \\ \frac{14}{5} \div \frac{7}{5} \\ \frac{214}{18} \times \frac{18}{17} = 2 \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad 1\frac{2}{7} \div 1\frac{5}{7} \\ \frac{9}{7} \div \frac{12}{7} \\ \frac{39}{17} \times \frac{17}{412} = \frac{3}{4} \end{aligned}$$

$$\textcircled{17} \quad \frac{12}{28} = \frac{3}{7}$$

$$\textcircled{18} \quad 2\frac{1}{4} = \frac{9}{4}$$

$$\textcircled{19} \quad \frac{16}{10} = 1\frac{3}{5}$$

$$\begin{aligned} \textcircled{20} \quad 1\frac{1}{3} \quad \frac{5}{4} \\ {}^6\frac{4}{3} > \frac{5}{4} {}^{15} \end{aligned}$$

$$\begin{aligned} \textcircled{21} \quad {}^{72}\frac{6}{8} = \frac{9}{n} {}^{72} \\ 72 \div 6 = 12 \\ n = 12 \end{aligned}$$

$$\begin{aligned} \textcircled{22} \quad 3\frac{2}{3} \times 5 \quad 3\frac{10}{15} \\ + 4\frac{4}{5} \times 3 \quad + 4\frac{12}{15} \\ \hline 7\frac{22}{15} = 8\frac{7}{15} \end{aligned}$$

$$\begin{aligned} \textcircled{23} \quad 6\frac{1}{2} \times 3 \quad 6\frac{3}{6} \\ - 2\frac{1}{3} \times 2 \quad - 2\frac{2}{6} \\ \hline 4\frac{1}{6} \end{aligned}$$

$$\begin{aligned} \textcircled{24} \quad 7\frac{1}{4} \times 2 \quad 7\frac{2}{8} \\ - 2\frac{3}{8} \times 1 \quad - 2\frac{3}{8} \\ \hline 4\frac{7}{8} \end{aligned}$$

$$\begin{aligned} \textcircled{25} \quad 9\frac{2}{5} \times 4 \quad 9\frac{8}{20} \\ - 1\frac{3}{4} \times 5 \quad - 1\frac{15}{20} \\ \hline 7\frac{13}{20} \end{aligned}$$

$$\textcircled{26} \quad \frac{4}{18} \times 210 = 8$$

$$\begin{aligned} \textcircled{27} \quad 2\frac{1}{2} \times \frac{8}{15} \\ \frac{15}{12} \times \frac{48}{315} = \frac{4}{3} = 1\frac{1}{3} \end{aligned}$$

# Reviewing Operations With Fractions

## PROBLEM SET #14

$$\textcircled{1} \frac{15}{45} = \frac{1}{3}$$

$$\textcircled{2} \frac{16}{24} = \frac{2}{3}$$

$$\textcircled{3} 3\frac{3}{4} = \frac{15}{4}$$

$$\textcircled{4} 1\frac{4}{5} = \frac{9}{5}$$

$$\textcircled{5} \frac{14}{10} = 1\frac{2}{5}$$

$$\textcircled{6} \frac{8}{6} = 1\frac{1}{3}$$

$$\textcircled{7} 3\frac{1}{2} > \frac{10}{3}$$

$$\textcircled{8} \frac{8}{5} < \frac{5}{3}$$

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

$$36 \div 6 = 6$$

$$n = 6$$

$$\textcircled{10} \frac{60}{n} = \frac{4}{10}$$

$$60 \div 4 = 15$$

$$n = 15$$

$$\textcircled{11} 6 \rightarrow \frac{1}{6}$$

$$\textcircled{12} 2\frac{1}{5} = \frac{11}{5} \rightarrow \frac{5}{11}$$

$$\textcircled{13} \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$$

$$+ \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

$$\frac{17}{12} = 1\frac{5}{12}$$

$$\textcircled{14} 2\frac{1}{4} \times 3 = 2\frac{3}{12}$$

$$+ 5\frac{5}{6} \times 2 = 5\frac{10}{12}$$

$$7\frac{13}{12} = 8\frac{1}{12}$$

$$\textcircled{15} \frac{3 \times 3}{5 \times 3} = \frac{9}{15}$$

$$- \frac{1 \times 5}{3 \times 5} = \frac{5}{15}$$

$$\frac{4}{15}$$

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

$$- 1\frac{1}{3} \times 2 = 1\frac{2}{6}$$

$$2\frac{1}{6}$$

$$\textcircled{17} 6 - 3\frac{1}{4} = 2\frac{3}{4}$$

$$\textcircled{18} 4\frac{1}{3} \times 5 = 4\frac{20}{15}$$

$$- 1\frac{2}{5} \times 3 = 1\frac{6}{15}$$

$$4\frac{14}{15}$$

$$\textcircled{19} 8\frac{1}{4} \times 1 = 8\frac{5}{4}$$

$$- 3\frac{1}{2} \times 2 = 3\frac{2}{4}$$

$$4\frac{3}{4}$$

$$\textcircled{20} 6\frac{1}{8} \times 3 = 6\frac{3}{8}$$

$$- 1\frac{1}{3} \times 8 = 1\frac{8}{24}$$

$$4\frac{19}{24}$$

$$\textcircled{21} 2\frac{14}{25} \times 2\frac{10}{32} = \frac{4}{15}$$

$$\textcircled{22} 1\frac{2}{3} \times 6 = 10$$

$$\textcircled{23} 1\frac{1}{2} \times \frac{5}{6} = 1\frac{5}{12}$$

$$\textcircled{24} 1\frac{1}{3} \times 4\frac{1}{2} = 6$$

$$\textcircled{25} \frac{1}{2} \div \frac{3}{4} = \frac{2}{3}$$

$$\textcircled{26} \frac{2}{3} \div 6 = \frac{1}{9}$$

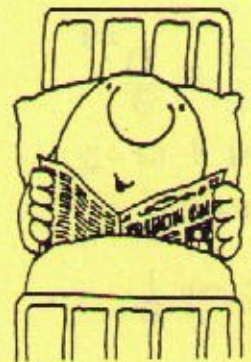
$$\textcircled{27} 2\frac{1}{2} \div 1\frac{1}{2} = \frac{5}{2} \div \frac{3}{2} = \frac{5}{3} = 1\frac{2}{3}$$

$$\textcircled{28} 6 \div 1\frac{1}{2} = 6 \div \frac{3}{2} = 6 \times \frac{2}{3} = 4$$

$$\textcircled{29} 3\frac{1}{3} \div 7\frac{1}{2} = \frac{10}{3} \div \frac{15}{2} = \frac{20}{3} \times \frac{2}{15} = \frac{4}{9}$$

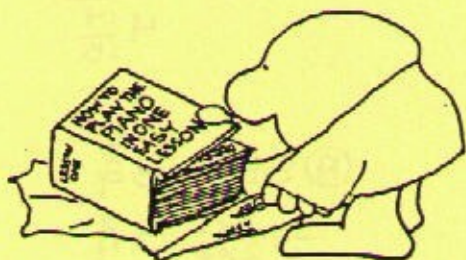
$$\textcircled{30} 2\frac{1}{2} \div 3\frac{3}{4} = \frac{5}{2} \div \frac{15}{4} = \frac{18}{2} \times \frac{4}{15} = \frac{2}{3}$$

FIRST THING I DO WHEN I WAKE UP IN THE MORNING IS READ THE OBITUARIES ... IF MY NAME ISN'T THERE, I GET DRESSED, AND START ANOTHER DAY!!





# PROBLEM SET #15



①  $\frac{8}{22} = \frac{4}{11}$

②  $\frac{20}{25} = \frac{4}{5}$

③  $4\frac{1}{5} = \frac{21}{5}$

④  $2\frac{5}{6} = \frac{17}{6}$

⑤  $\frac{12}{8} = 1\frac{1}{2}$

⑥  $\frac{18}{10} = 1\frac{4}{5}$

⑦  $2\frac{1}{3} > \frac{5}{2}$   
 $\frac{7}{3} < \frac{5}{2}$

⑧  $\frac{8}{3} < 2\frac{3}{4}$   
 $\frac{8}{3} < \frac{11}{4}$

⑨  $\frac{4}{12} = \frac{3}{n}$   
 $36 \div 4 = 9$   
 $n = 9$

⑩  $\frac{3}{12} = \frac{n}{8}$   
 $24 \div 12 = 2$   
 $n = 2$

⑪  $8 \rightarrow \frac{1}{8}$

⑫  $3\frac{3}{8} = \frac{27}{8} \rightarrow \frac{8}{27}$

⑬  $\frac{1 \times 4}{3 \times 4} + \frac{1 \times 3}{4 \times 3} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$

⑭  $3\frac{2}{5} + 1\frac{2}{3} = 3\frac{6}{15} + 1\frac{10}{15} = 4\frac{16}{15} = 5\frac{1}{15}$

⑮  $\frac{5}{6} - \frac{3}{4} = \frac{10}{12} - \frac{9}{12} = \frac{1}{12}$

⑯  $4\frac{2}{7} - 1\frac{1}{5} = 4\frac{10}{35} - 1\frac{7}{35} = 3\frac{3}{35}$

⑰  $8 - 2\frac{4}{5} = 7\frac{5}{5} - 2\frac{4}{5} = 5\frac{1}{5}$

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

⑲  $7\frac{2}{3} - 1\frac{3}{4} = 6\frac{8}{12} - 1\frac{9}{12} = 5\frac{11}{12}$

⑳  $5\frac{1}{6} - 2\frac{1}{4} = 4\frac{2}{12} - 2\frac{3}{12} = 2\frac{11}{12}$

㉑  $\frac{2}{3} \times \frac{5}{18} = \frac{2}{9}$

㉒  $2\frac{1}{4} \times 8 = \frac{9}{4} \times 8 = 18$

㉓  $\frac{5}{22} \times 2\frac{3}{4} = \frac{5}{22} \times \frac{11}{4} = \frac{5}{8}$

㉔  $2\frac{1}{3} \times 1\frac{5}{7} = \frac{7}{3} \times \frac{12}{7} = 4$

㉕  $\frac{2}{3} \div \frac{2}{5} = \frac{2}{3} \times \frac{5}{2} = \frac{5}{3} = 1\frac{2}{3}$

㉖  $\frac{4}{5} \div 8 = \frac{4}{5} \times \frac{1}{8} = \frac{1}{10}$

$$\begin{aligned} \textcircled{27} \quad 2\frac{1}{3} \div 3\frac{1}{2} \\ \frac{7}{3} \div \frac{7}{2} \\ \frac{1}{3} \times \frac{2}{1} = \frac{2}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{28} \quad 8 \div 1\frac{1}{3} \\ 8 \div \frac{4}{3} \\ 28 \times \frac{3}{4} = 6 \end{aligned}$$

$$\begin{aligned} \textcircled{29} \quad 2\frac{1}{4} \div 1\frac{1}{2} \\ \frac{9}{4} \div \frac{3}{2} \\ \frac{3}{4} \times \frac{2}{3} = \frac{3}{2} = 1\frac{1}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{30} \quad 2\frac{2}{3} \div 3\frac{1}{3} \\ \frac{8}{3} \div \frac{10}{3} \\ \frac{4}{3} \times \frac{3}{5} = \frac{4}{5} \end{aligned}$$



$$\begin{aligned} \textcircled{14} \quad 4\frac{3}{4} \times 7 \quad 4\frac{21}{28} \\ + 3\frac{2}{7} \times 4 \quad + 3\frac{8}{28} \\ \hline 7\frac{29}{28} = 8\frac{1}{28} \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad \frac{2}{3} \times 8 \quad \frac{16}{24} \\ - \frac{1}{8} \times 3 \quad - \frac{3}{24} \\ \hline \frac{13}{24} \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad 5\frac{3}{4} \times 3 \quad 5\frac{9}{12} \\ - 2\frac{2}{3} \times 4 \quad - 2\frac{8}{12} \\ \hline 3\frac{1}{12} \end{aligned}$$

$$\begin{aligned} \textcircled{17} \quad 7 \quad 6\frac{3}{3} \\ - 5\frac{2}{3} \quad - 5\frac{2}{3} \\ \hline 1\frac{1}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{18} \quad 8\frac{1}{6} \times 2 \quad 7\frac{14}{12} \\ - 3\frac{1}{4} \times 3 \quad - 3\frac{3}{12} \\ \hline 4\frac{11}{12} \end{aligned}$$

## PROBLEM SET #16

$$\textcircled{1} \quad \frac{12}{48} = \frac{1}{4}$$

$$\textcircled{2} \quad \frac{14}{35} = \frac{2}{5}$$

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

$$\textcircled{4} \quad 3\frac{1}{4} = \frac{13}{4}$$

$$\textcircled{5} \quad \frac{20}{16} = 1\frac{1}{4}$$

$$\textcircled{6} \quad \frac{24}{14} = 1\frac{5}{7}$$

$$\begin{aligned} \textcircled{7} \quad 1\frac{3}{4} > \frac{5}{3} \\ \frac{7}{4} > \frac{5}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad \frac{7}{3} < 2\frac{1}{2} \\ \frac{7}{3} < \frac{5}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad \frac{n}{15} = \frac{6}{10} \\ 90 \div 10 = 9 \\ n = 9 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad \frac{2}{12} = \frac{3}{n} \\ 36 \div 2 = 18 \\ n = 18 \end{aligned}$$

$$\textcircled{11} \quad 3 \rightarrow \frac{1}{3}$$

$$\textcircled{12} \quad 4\frac{1}{2} = \frac{9}{2} \rightarrow \frac{2}{9}$$

$$\begin{aligned} \textcircled{13} \quad \frac{1}{2} \times 4 \quad \frac{4}{8} \\ + \frac{3}{8} \times 1 \quad + \frac{3}{8} \\ \hline \frac{7}{8} \end{aligned}$$

$$\begin{aligned} \textcircled{19} \quad 9\frac{3}{8} \times 3 \quad 8\frac{33}{24} \\ - 4\frac{5}{6} \times 4 \quad - 4\frac{20}{24} \\ \hline 4\frac{13}{24} \end{aligned}$$

$$\begin{aligned} \textcircled{20} \quad 4\frac{1}{3} \times 5 \quad 3\frac{20}{15} \\ - 2\frac{3}{5} \times 3 \quad - 2\frac{9}{15} \\ \hline 1\frac{11}{15} \end{aligned}$$

$$\textcircled{21} \quad \frac{3}{5} \times \frac{9}{20} \times \frac{2}{5} = \frac{6}{25}$$

$$\textcircled{22} \quad 1\frac{1}{2} \times 10$$

$$1\frac{3}{2} \times 510 = 15$$

$$\textcircled{23} \quad 9 \times 2\frac{1}{3}$$

$$\frac{39}{214} \times \frac{17}{13} = \frac{3}{2} = 1\frac{1}{2}$$

$$\textcircled{24} \quad 2\frac{2}{3} \times 1\frac{1}{2}$$

$$\frac{48}{18} \times \frac{13}{12} = 4$$

$$\textcircled{25} \quad \frac{4}{5} \div \frac{1}{3}$$

$$\frac{4}{5} \times \frac{3}{1} = \frac{12}{5} = 2\frac{2}{5}$$

$$\textcircled{26} \quad \frac{3}{4} \div 6$$

$$1\frac{3}{4} \times 2\frac{1}{6} = \frac{1}{8}$$

$$\textcircled{27} \quad 1\frac{2}{3} \div 1\frac{3}{7}$$

$$\frac{5}{3} \div \frac{10}{7}$$

$$1\frac{8}{3} \times 2\frac{7}{10} = \frac{7}{6} = 1\frac{1}{6}$$

$$\textcircled{28} \quad 4 \div 1\frac{5}{7}$$

$$4 \div \frac{12}{7}$$

$$14 \times \frac{7}{12} = \frac{7}{3} = 2\frac{1}{3}$$

$$\textcircled{29} \quad 1\frac{1}{4} \div 1\frac{7}{8}$$

$$\frac{5}{4} \div \frac{15}{8}$$

$$1\frac{5}{4} \times \frac{28}{15} = \frac{2}{3}$$

$$\textcircled{30} \quad 2\frac{1}{4} \div 1\frac{1}{5}$$

$$\frac{9}{4} \div \frac{6}{5}$$

$$3\frac{9}{4} \times \frac{5}{26} = \frac{15}{8} = 1\frac{7}{8}$$

