

1.)  $0.555\dots = \boxed{\frac{5}{9}}$

2.)  $0.787878\dots = \frac{78 \div 3}{99 \div 3} = \boxed{\frac{26}{33}}$

3.)  $0.\overline{3} = \frac{3 \div 3}{9 \div 3} = \boxed{\frac{1}{3}}$

4.)  $0.423423423\dots = \frac{423 \div 9}{999 \div 9} = \boxed{\frac{47}{111}}$

$0.823333\dots$

$n = 0.823333\dots$

$$\begin{array}{r} 1000n = 823.\overline{333} \\ -100n = 82.\overline{333} \\ \hline 900n = 741 \end{array}$$

$0.8\overline{3} = 0.83333\dots$

$n = 0.83333\dots$

$$\begin{array}{r} 100n = 83.\overline{333} \\ -10n = 8.\overline{333} \\ \hline 90n = 75 \end{array}$$

$\frac{90n}{90} = \frac{75}{90}$

$n = \frac{75 \div 5}{90 \div 5} = \frac{15 \div 3}{18 \div 3} = \boxed{\frac{5}{6}}$

$0.\overbrace{823}^1 \overbrace{333}^{23} \dots$   
 $\downarrow$   
 $0.8\overbrace{23}^1 \overbrace{333}^{23} \dots$

$\frac{900n}{900} = \frac{741}{900}$

$n = \frac{741 \div 3}{900 \div 3} = \boxed{\frac{247}{300}}$

$0.\overbrace{83}^1 \overbrace{3333}^{23} \dots$

$0.8\overbrace{3333}^{23} \dots$

$$4\frac{3}{7} + 2\frac{11}{14}$$

$$\frac{3}{7} + \frac{11}{14}$$

$$\frac{6}{14} + \frac{11}{14} = \frac{17}{14}$$

$$4\frac{6}{14} + 2\frac{11}{14}$$

$$\frac{3}{7} \xrightarrow{\times 2} \frac{6}{14}$$

$$\frac{17}{14} \quad | \quad \frac{3}{14}$$

$$6 + 1\frac{3}{14} = \boxed{7\frac{3}{14}}$$

$$\frac{11}{14} \xrightarrow{\times 1} \frac{11}{14}$$

$$14 \overline{) 17} \quad | \quad \frac{3}{14}$$

$$\underline{-14}$$

$$3$$

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

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

$$\frac{5}{8} - \frac{5}{6}$$

$$\frac{5}{8} \xrightarrow{\times 3} \frac{15}{24}$$

$$8, 16, \boxed{24}, 32, 40, 48, \dots$$

$$6, 12, 18, \boxed{24}, 30, 36, \dots$$

$$2\frac{15}{24} + \frac{24}{24}$$

$$\frac{5}{8} = \frac{15}{24}$$

$$\frac{5}{6} \xrightarrow{\times 4} \frac{20}{24}$$

$$- 1\frac{20}{24}$$

$$2\frac{39}{24}$$

$$- 1\frac{20}{24}$$

$$\boxed{1\frac{19}{24}}$$

$$\frac{7}{9} \times \frac{3}{7} = \frac{21}{63} \div 21 = \boxed{\frac{1}{3}}$$

$$\frac{7}{9} \times \frac{3}{7} \xrightarrow{\div 7}$$

$$\frac{1}{9} \times \frac{3}{1} \xrightarrow{\div 3}$$

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

$$\frac{9}{20} * \frac{4}{15} \div 4$$

$$\frac{9}{5} * \frac{1}{15} \div 3$$

$$\frac{3}{5} * \frac{1}{5} = \boxed{\frac{3}{25}}$$

$$5\frac{1}{7} * 4\frac{2}{3}$$

MUST convert mixed number into an improper fraction.

$$5\frac{1}{7}$$

$$\frac{(5*7)+1}{7}$$

$$\frac{35+1}{7} = \frac{36}{7}$$

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

$$\frac{(4*3)+2}{3} = \frac{12+2}{3} = \frac{14}{3}$$

$$5\frac{1}{7} * 4\frac{2}{3}$$

$$\frac{36}{7} * \frac{14}{3} \div 3$$

$$\frac{12}{7} * \frac{14}{1} \div 2$$

$$\frac{12}{1} * \frac{2}{1} = \frac{24}{1}$$

$$\frac{3}{8} \div \left(\frac{9}{16}\right) \rightarrow \frac{3}{8} * \frac{16}{9}$$

Keep change flip!

$$\frac{3}{8} * \frac{16}{9} \div 8$$

$$\frac{3}{1} * \frac{2}{9} \div 3$$

$$\frac{1}{1} * \frac{2}{3} = \boxed{\frac{2}{3}}$$

$$6\frac{1}{8} \div \frac{7}{3}$$

$$6\frac{1}{8} = \frac{(6*8)+1}{8} = \frac{48+1}{8} = \frac{49}{8}$$

$$\frac{49}{8} \div \frac{7}{3}$$

$$\frac{49}{8} * \frac{3}{7} \div 1$$

1.) Convert mixed number into improper fraction

2.) Keep, Change, Flip

3.) Reduce (as needed)

4.) Multiply

$$\frac{7}{8} * \frac{3}{1} = \frac{21}{8}$$