1. $\dfrac{\dfrac{3}{4} + \dfrac{3}{4}}{\dfrac{5}{5}} = \dfrac{3}{1} \cdot \dfrac{5}{4} + \dfrac{3}{4} \cdot \dfrac{1}{5}$

$= \dfrac{15}{4} + \dfrac{3}{20}$

$= \dfrac{75}{20} + \dfrac{3}{20}$

$= \dfrac{78}{20}$

$= \dfrac{39}{10}$ bulunur.

2. $\left(1+\dfrac{1}{2}\right) \cdot \left(1+\dfrac{1}{3}\right) \cdot \left(1+\dfrac{1}{4}\right) \cdot \ldots \cdot \left(1+\dfrac{1}{x}\right) = \dfrac{30}{4}$

$\dfrac{3}{2} \cdot \dfrac{4}{3} \cdot \dfrac{5}{4} \cdot \ldots \cdot \dfrac{x+1}{x} = \dfrac{30}{4}$

$\dfrac{x+1}{2} = \dfrac{15}{2}$

$x+1=15 \rightarrow x=14$ bulunur.

3. $3 + \dfrac{4}{3 + \dfrac{4}{3 + \dfrac{4}{\vdots}}} = x$

$3 + \dfrac{4}{x} = x \rightarrow x^2 - 3x - 4 = 0$

$\begin{array}{cc} x & -4 \\ x & +1 \end{array}$

$(x-4) \cdot (x+1) = 0$

$x = 4$ veya $x \neq -1 \in \mathbb{R} \rightarrow x = 4$ bulunur.

4. $\dfrac{37}{25} + \dfrac{41}{27} + \dfrac{42}{29} = a$

$-\dfrac{\dfrac{12}{25} + \dfrac{14}{27} + \dfrac{13}{29} = x}{\dfrac{25}{25} + \dfrac{27}{27} + \dfrac{29}{29} = a - x}$

$3 = a - x$

$x = a - 3$ bulunur.

5. $a = \dfrac{2}{3}b \rightarrow \dfrac{a}{b} = \dfrac{2}{3} \rightarrow a = 2k$ ve $b = 3k$

$a.b = 24$

$2k.3k = 24$

$6k^2 = 24 \rightarrow k^2 = 4 \rightarrow k = 2$ olur.

$a + b = 2k + 3k = 5k = 5.2 = 10$ bulunur.

6. $x = 0,\overline{8} = \dfrac{8}{9}$

$y = 0,\overline{4} = \dfrac{4}{9}$

$\dfrac{1}{x} + \dfrac{1}{y} = \dfrac{1}{\dfrac{8}{9}} + \dfrac{1}{\dfrac{4}{9}} = \dfrac{9}{8} + \dfrac{9}{4} = \dfrac{9+18}{8} = \dfrac{27}{8}$ bulunur.

7. $\dfrac{0,12}{0,03} + \dfrac{0,04}{0,12} - \dfrac{0,05}{0,01} = \dfrac{12}{3} + \dfrac{4}{12} - 5$

$$= 4 + \dfrac{1}{3} - 5$$

$$= \dfrac{1}{3} - 1$$

$$= -\dfrac{2}{3} \text{ bulunur.}$$

9. $\dfrac{0,46}{4,6} + \dfrac{2,2}{22} + \dfrac{x}{y} = A$

$$\dfrac{46}{460} + \dfrac{22}{220} + \dfrac{x}{y} = A$$

$$\dfrac{1}{10} + \dfrac{1}{10} + \dfrac{x}{y} = A$$

$$\dfrac{2}{10} + \dfrac{x}{y} = A$$

$$\dfrac{1}{5} + \dfrac{x}{y} = A$$

A = 1 için

$$\dfrac{1}{5} + \dfrac{x}{y} = 1 \rightarrow \dfrac{x}{y} = 1 - \dfrac{1}{5} \rightarrow \dfrac{x}{y} = \dfrac{4}{5} \rightarrow x = 4, y = 5 \text{ olur.}$$

x + y = 9 bulunur.

8. $\dfrac{5,\overline{6} - 2,\overline{2}}{x - \dfrac{1}{9}} = \dfrac{5 + 0,\overline{6} - \left(2 + 0,\overline{2}\right)}{x - \dfrac{1}{9}} = 8$

$$\dfrac{\dfrac{27 + 4}{9}}{\dfrac{9x - 1}{9}} = 8$$

$$\dfrac{31}{9x - 1} = 8$$

$$31 = 72x - 8 \rightarrow \dfrac{39}{72} = x \rightarrow x = \dfrac{13}{24} \text{ bulunur.}$$

10. $0,a\overline{b} + 0,b\overline{a} = 1,\overline{8} = \dfrac{18 - 1}{9}$

$$\dfrac{ab - a}{90} + \dfrac{ba - b}{90} = \dfrac{17}{9}$$

$$\dfrac{10a + b - a}{90} + \dfrac{10b + a - b}{90} = \dfrac{17}{9}$$

$$\dfrac{10a + 10b}{90} = \dfrac{17}{9}$$

$$\dfrac{10(a + b)}{90} = \dfrac{17}{9}$$

$$\dfrac{a + b}{9} = \dfrac{17}{9} \rightarrow a + b = 17 \text{ bulunur.}$$