



Rewrite each infinitely repeating decimal as a rational number (fraction).

Answers

1) $9.12\overline{78}$

2) $0.681\overline{39}$

1. _____

3) $0.95\overline{9}$

4) $79.5\overline{28}$

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

5) $0.48\overline{56}$

6) $5.569\overline{46}$

9. _____

10. _____

7) $4.665\overline{1}$

8) $4.3\overline{6}$

9) $22.5\overline{4}$

10) $0.8\overline{62}$



Rewrite each infinitely repeating decimal as a rational number (fraction).

$$\begin{aligned}
 &1) \ 9.12\overline{78} \\
 &f = 9.12\overline{78} \\
 &\quad 10,000f = 91278.\overline{78} \\
 &\quad - \quad 100f = 00912.\overline{78} \\
 &\quad \hline
 &\quad 9900f = 90366 \\
 &f = \frac{90366}{9900}
 \end{aligned}$$

$$\begin{aligned}
 &2) \ 0.681\overline{39} \\
 &f = 0.681\overline{39} \\
 &\quad 100,000f = 68139.\overline{39} \\
 &\quad - \quad 1,000f = 00681.\overline{39} \\
 &\quad \hline
 &\quad 99000f = 67458 \\
 &f = \frac{67458}{99000}
 \end{aligned}$$

$$\begin{aligned}
 &3) \ 0.95\overline{9} \\
 &f = 0.95\overline{9} \\
 &\quad 1,000f = 959.\overline{9} \\
 &\quad - \quad 100f = 096.\overline{9} \\
 &\quad \hline
 &\quad 900f = 864 \\
 &f = \frac{864}{900}
 \end{aligned}$$

$$\begin{aligned}
 &4) \ 79.5\overline{28} \\
 &f = 79.5\overline{28} \\
 &\quad 1,000f = 79528.\overline{28} \\
 &\quad - \quad 10f = 00795.\overline{28} \\
 &\quad \hline
 &\quad 990f = 78733 \\
 &f = \frac{78733}{990}
 \end{aligned}$$

$$\begin{aligned}
 &5) \ 0.48\overline{56} \\
 &f = 0.48\overline{56} \\
 &\quad 10,000f = 4856.\overline{56} \\
 &\quad - \quad 100f = 0048.\overline{56} \\
 &\quad \hline
 &\quad 9900f = 4808 \\
 &f = \frac{4808}{9900}
 \end{aligned}$$

$$\begin{aligned}
 &6) \ 5.569\overline{46} \\
 &f = 5.569\overline{46} \\
 &\quad 100,000f = 556946.\overline{46} \\
 &\quad - \quad 1,000f = 005569.\overline{46} \\
 &\quad \hline
 &\quad 99000f = 551377 \\
 &f = \frac{551377}{99000}
 \end{aligned}$$

$$\begin{aligned}
 &7) \ 4.665\overline{1} \\
 &f = 4.665\overline{1} \\
 &\quad 10,000f = 46651.\overline{1} \\
 &\quad - \quad 1,000f = 04665.\overline{1} \\
 &\quad \hline
 &\quad 9000f = 41986 \\
 &f = \frac{41986}{9000}
 \end{aligned}$$

$$\begin{aligned}
 &8) \ 4.3\overline{6} \\
 &f = 4.3\overline{6} \\
 &\quad 100f = 436.\overline{6} \\
 &\quad - \quad 10f = 043.\overline{6} \\
 &\quad \hline
 &\quad 90f = 393 \\
 &f = \frac{393}{90}
 \end{aligned}$$

$$\begin{aligned}
 &9) \ 22.5\overline{4} \\
 &f = 22.5\overline{4} \\
 &\quad 100f = 2254.\overline{4} \\
 &\quad - \quad 10f = 0225.\overline{4} \\
 &\quad \hline
 &\quad 90f = 2029 \\
 &f = \frac{2029}{90}
 \end{aligned}$$

$$\begin{aligned}
 &10) \ 0.8\overline{62} \\
 &f = 0.8\overline{62} \\
 &\quad 1,000f = 862.\overline{62} \\
 &\quad - \quad 10f = 008.\overline{62} \\
 &\quad \hline
 &\quad 990f = 854 \\
 &f = \frac{854}{990}
 \end{aligned}$$

Answers

1. $\frac{90366}{9900}$
2. $\frac{67458}{99000}$
3. $\frac{864}{900}$
4. $\frac{78733}{990}$
5. $\frac{4808}{900}$
6. $\frac{551377}{99000}$
7. $\frac{41986}{9000}$
8. $\frac{393}{90}$
9. $\frac{2029}{90}$
10. $\frac{854}{990}$