



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

Answers

1) $4.\overline{16}$

2) $92.\overline{958}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

3) $16.\overline{49}$

4) $6.\overline{756}$

5) $0.25\overline{71}$

6) $2.500\overline{13}$

7) $0.54\overline{23}$

8) $0.29\overline{8}$

9) $9.47\overline{10}$

10) $0.143\overline{81}$



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

Answers

1) $4.\overline{16}$

$$\begin{aligned} f &= 4.\overline{16} \\ 100f &= 416.\overline{6} \\ - 10f &= 41.\overline{6} \\ \hline 90f &= 375 \\ f &= \frac{375}{90} \end{aligned}$$

2) $92.\overline{958}$

$$\begin{aligned} f &= 92.\overline{958} \\ 1,000f &= 92,958.\overline{58} \\ - 10f &= 929.\overline{58} \\ \hline 990f &= 92,029 \\ f &= \frac{92,029}{990} \end{aligned}$$

3) $16.\overline{49}$

$$\begin{aligned} f &= 16.\overline{49} \\ 100f &= 1,649.\overline{9} \\ - 10f &= 164.\overline{9} \\ \hline 90f &= 1,485 \\ f &= \frac{1,485}{90} \end{aligned}$$

4) $6.\overline{756}$

$$\begin{aligned} f &= 6.\overline{756} \\ 1,000f &= 6,756.\overline{56} \\ - 10f &= 67.\overline{56} \\ \hline 990f &= 6,689 \\ f &= \frac{6,689}{990} \end{aligned}$$

5) $0.257\overline{1}$

$$\begin{aligned} f &= 0.257\overline{1} \\ 10,000f &= 2,571.\overline{1} \\ - 1,000f &= 257.\overline{1} \\ \hline 9,000f &= 2,314 \\ f &= \frac{2,314}{9,000} \end{aligned}$$

6) $2.5001\overline{3}$

$$\begin{aligned} f &= 2.5001\overline{3} \\ 100,000f &= 250,013.\overline{13} \\ - 1,000f &= 2,500.\overline{13} \\ \hline 99,000f &= 247,513 \\ f &= \frac{247,513}{99,000} \end{aligned}$$

7) $0.54\overline{23}$

$$\begin{aligned} f &= 0.54\overline{23} \\ 10,000f &= 5,423.\overline{23} \\ - 100f &= 54.\overline{23} \\ \hline 9,900f &= 5,369 \\ f &= \frac{5,369}{9,900} \end{aligned}$$

8) $0.29\overline{8}$

$$\begin{aligned} f &= 0.29\overline{8} \\ 1,000f &= 298.\overline{8} \\ - 100f &= 29.\overline{8} \\ \hline 900f &= 269 \\ f &= \frac{269}{900} \end{aligned}$$

9) $9.471\overline{0}$

$$\begin{aligned} f &= 9.471\overline{0} \\ 10,000f &= 94,710.\overline{10} \\ - 100f &= 947.\overline{10} \\ \hline 9,900f &= 93,763 \\ f &= \frac{93,763}{9,900} \end{aligned}$$

10) $0.14381\overline{}$

$$\begin{aligned} f &= 0.14381\overline{ } \\ 100,000f &= 14,381.\overline{81} \\ - 1,000f &= 143.\overline{81} \\ \hline 99,000f &= 14,238 \\ f &= \frac{14,238}{99,000} \end{aligned}$$

1. $\frac{375}{90}$
2. $\frac{92,029}{990}$
3. $\frac{1,485}{90}$
4. $\frac{6,689}{990}$
5. $\frac{2,314}{9,000}$
6. $\frac{247,513}{99,000}$
7. $\frac{5,369}{9,900}$
8. $\frac{269}{900}$
9. $\frac{93,763}{9,900}$
10. $\frac{14,238}{99,000}$