Converting Repeating Decimals to Fractions

Name:

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

1) $0.55\overline{135}$

2) $0.30\overline{41}$

3) $35.1\overline{39}$

4) $5.7\overline{4}$

5) $8.15\overline{151}$

6) $5.54\overline{59}$

7) $6.41\overline{32}$

8) $3.28\overline{9}$

9) $0.5\overline{31}$

10) $0.83\overline{1}$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

1-10	90	80	70	60	50	40	30	20	10	0

Converting Repeating Decimals to Fractions Name: **Answer Key**

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

1) $0.55\overline{135}$

$f = 0.55\overline{135}$

$100{,}000f = 55135.\overline{35}$

$-\quad 1{,}000f = 00551.\overline{35}$

$99000f = 54584$

$f = \frac{54584}{99000}$

2) $0.30\overline{41}$

$f = 0.30\overline{41}$

$10{,}000f = 3041.\overline{41}$

$-\quad 100f = 0030.\overline{41}$

$9900f = 3011$

$f = \frac{3011}{9900}$

3) $35.1\overline{39}$

$f = 35.1\overline{39}$

$1{,}000f = 35139.\overline{39}$

$-\quad 10f = 00351.\overline{39}$

$990f = 34788$

$f = \frac{34788}{990}$

4) $5.7\overline{4}$

$f = 5.7\overline{4}$

$100f = 574.\overline{4}$

$-\quad 10f = 057.\overline{4}$

$90f = 517$

$f = \frac{517}{90}$

5) $8.15\overline{151}$

$f = 8.15\overline{151}$

$100{,}000f = 815151.\overline{51}$

$-\quad 1{,}000f = 008151.\overline{51}$

$99000f = 807000$

$f = \frac{807000}{99000}$

6) $5.545\overline{9}$

$f = 5.545\overline{9}$

$10{,}000f = 55459.\overline{9}$

$-\quad 1{,}000f = 05546.\overline{9}$

$9000f = 49914$

$f = \frac{49914}{9000}$

7) $6.41\overline{32}$

$f = 6.41\overline{32}$

$10{,}000f = 64132.\overline{32}$

$-\quad 100f = 00641.\overline{32}$

$9900f = 63491$

$f = \frac{63491}{9900}$

8) $3.28\overline{9}$

$f = 3.28\overline{9}$

$1{,}000f = 3289.\overline{9}$

$-\quad 100f = 0329.\overline{9}$

$900f = 2961$

$f = \frac{2961}{900}$

9) $0.5\overline{31}$

$f = 0.5\overline{31}$

$1{,}000f = 531.\overline{31}$

$-\quad 10f = 005.\overline{31}$

$990f = 526$

$f = \frac{526}{990}$

10) $0.83\overline{1}$

$f = 0.83\overline{1}$

$1{,}000f = 831.\overline{1}$

$-\quad 100f = 083.\overline{1}$

$900f = 748$

$f = \frac{748}{900}$

Answers

1. $\frac{54584}{99000}$
2. $\frac{3011}{9900}$
3. $\frac{34788}{990}$
4. $\frac{517}{90}$
5. $\frac{807000}{99000}$
6. $\frac{49914}{9000}$
7. $\frac{63491}{9900}$
8. $\frac{2961}{900}$
9. $\frac{526}{990}$
10. $\frac{748}{900}$

1-10	90	80	70	60	50	40	30	20	10	0