Converting Repeating Decimals to Fractions

Name:

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

1) $9.7\overline{84}$

2) $0.702\overline{92}$

3) $3.90\overline{16}$

4) $0.6\overline{48}$

5) $69.9\overline{7}$

6) $0.30\overline{4}$

7) $5.53\overline{1}$

8) $0.29\overline{13}$

9) $6.850\overline{5}$

10) $0.883\overline{5}$

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) $9.7\overline{84}$

$f = 9.7\overline{84}$

$1{,}000f = 9784.\overline{84}$

$- \quad 10f = 0097.\overline{84}$

$990f = 9687$

$f = \frac{9687}{990}$

2) $0.70\overline{292}$

$f = 0.70\overline{292}$

$100{,}000f = 70292.\overline{92}$

$- \quad 1{,}000f = 00702.\overline{92}$

$99000f = 69590$

$f = \frac{69590}{99000}$

3) $3.90\overline{16}$

$f = 3.90\overline{16}$

$10{,}000f = 39016.\overline{16}$

$- \quad 100f = 00390.\overline{16}$

$9900f = 38626$

$f = \frac{38626}{9900}$

4) $0.6\overline{48}$

$f = 0.6\overline{48}$

$1{,}000f = 648.\overline{48}$

$- \quad 10f = 006.\overline{48}$

$990f = 642$

$f = \frac{642}{990}$

5) $69.9\overline{7}$

$f = 69.9\overline{7}$

$100f = 6997.\overline{7}$

$- \quad 10f = 0699.\overline{7}$

$90f = 6298$

$f = \frac{6298}{90}$

6) $0.30\overline{4}$

$f = 0.30\overline{4}$

$1{,}000f = 304.\overline{4}$

$- \quad 100f = 030.\overline{4}$

$900f = 274$

$f = \frac{274}{900}$

7) $5.53\overline{1}$

$f = 5.53\overline{1}$

$1{,}000f = 5531.\overline{1}$

$- \quad 100f = 0553.\overline{1}$

$900f = 4978$

$f = \frac{4978}{900}$

8) $0.29\overline{13}$

$f = 0.29\overline{13}$

$10{,}000f = 2913.\overline{13}$

$- \quad 100f = 0029.\overline{13}$

$9900f = 2884$

$f = \frac{2884}{9900}$

9) $6.850\overline{5}$

$f = 6.850\overline{5}$

$10{,}000f = 68505.\overline{5}$

$- \quad 1{,}000f = 06850.\overline{5}$

$9000f = 61655$

$f = \frac{61655}{9000}$

10) $0.883\overline{5}$

$f = 0.883\overline{5}$

$10{,}000f = 8835.\overline{5}$

$- \quad 1{,}000f = 0883.\overline{5}$

$9000f = 7952$

$f = \frac{7952}{9000}$

Answers

1. $\frac{9687}{990}$
2. $\frac{69590}{99000}$
3. $\frac{38626}{9900}$
4. $\frac{642}{990}$
5. $\frac{6298}{90}$
6. $\frac{274}{900}$
7. $\frac{4978}{900}$
8. $\frac{2884}{9900}$
9. $\frac{61655}{9000}$
10. $\frac{7952}{9000}$

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