

Answer key

Converting Repeating Decimals to Fractions

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| <p>1 repeating digit $n = 2.555\dots$ $10(n = 2.555\dots)$ $10n = 25.555\dots$ $-1n = 2.555\dots$ $\hline 9n = 23$ $n = 2\frac{5}{9}$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $2\frac{5}{9}$ </div> | <p>2 repeating digits $n = 2.3535\dots$ $100(n = 2.3535\dots)$ $100n = 235.3535\dots$ $-1n = 2.3535\dots$ $\hline 99n = 233$ $n = 2\frac{35}{99}$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $2\frac{35}{99}$ </div> |
| <p>3 repeating digits $n = 2.378$ $1000(n = 2.378\dots)$ $1000n = 2378.378\dots$ $-1n = 2.378\dots$ $\hline 999n = 2376$ $n = 2\frac{378}{999}$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $2\frac{378}{999}$ </div> | <p>* Repeating after leading digits $n = 0.453333\dots$ (1 repeating digit) $10(n = 0.453333\dots)$ $10n = 4.53333\dots$ $-1n = 0.453333\dots$ $\hline 9n = 4.08$ $n = \frac{4.08}{9} \times \frac{100}{100} = \frac{408 \div 12}{900 \div 12} = \frac{34}{75}$ terminate decimal in numerator</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $\frac{34}{75}$ </div> |