Grade 8 Unit 7
Lesson 5 Anchor Problem 2
Repeating Decimals Slow Reveal

Write $0.\overline{12}$ as a fraction.

Step 1

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Step 2

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Multiply x by 100: $100x = 12.\overline{12}$

Step 3

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Multiply x by 100: $\qquad\qquad 100x = 12.\overline{12}$

Subtract x
from both sides:
$$\begin{array}{r} -x \qquad -x \\ \hline \end{array}$$

Step 3 (cont.)

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Multiply x by 100: $\qquad\qquad 100x = 12.\overline{12}$

Subtract x
from both sides: $\qquad\qquad \dfrac{-x \qquad\quad -x}{100x - x = 12.\overline{12} - 0.\overline{12}}$

$$99x = 12$$

Step 4

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Multiply x by 100:

$$100x = 12.\overline{12}$$

Subtract x
from both sides:

$$- x \qquad - x$$

$$100x - x = 12.\overline{12} - 0.\overline{12}$$

$$99x = 12$$

Divide by 99
on both sides:

$$\div 99 \qquad \div 99$$

Step 5

Write $0.\overline{12}$ as a fraction.

Let $x = 0.\overline{12}$

Multiply x by 100:

$$100x = 12.\overline{12}$$

Subtract x
from both sides:

$$-x \qquad -x$$

$$100x - x = 12.\overline{12} - 0.\overline{12}$$

$$99x = 12$$

Divide by 99
on both sides:

$$\div\ 99 \qquad \div\ 99$$

$$x = \frac{12}{99}$$