Math 1303 - Math in the Liberal Arts

Quiz #14 - 2014.10.27

Solutions

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1. Write the terminating decimal 0.0455 as the quotient of two integers. Be sure to reduce to lowest terms.

   We first write this as a fraction over a power of 10:

$$0.0455 = \frac{455}{10000}$$

This can be reduced:

$$0.0455 = \frac{455}{10000} = \frac{91}{2000}$$

2. Write the repeating decimal $2.1\overline{55}$ as the quotient of two integers. Be sure to reduce to lowest terms.

   If we let $x = 2.1\overline{55}$, then $10x = 21.5\overline{55}$ and $100x = 215.\overline{55}$. Taking the difference of these two gives:

$$100x - 10x = 215.\overline{55} - 21.5\overline{55}$$

Solving for x:

$$x = \frac{194}{90} = \frac{97}{45}$$