Represent any repeating decimal as a ratio, Practice Set C

Name:

Date:

1. Charlotte spent $.1\overline{2}$ of an hour studying. Marla spent $.1\overline{3}$ of an hour studying. Express how much more time Marla spent studying as a ratio of two integers. Show all of your work.

2. Derek spent $1.23\overline{4}$ hours in the gym working out, while Melissa spent $2.34\overline{5}$ hours working out. Express how much longer Melissa was working out as a mixed number. Show all of your work.

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Answer Key

1. Charlotte spent $.1\overline{2}$ of an hour studying. Marla spent $.1\overline{3}$ of an hour studying. Express how much more time Marla spent studying as a ratio of two integers. Show all of your work.

Charlotte

$x = .1\overline{2}$

$100x = 12.\overline{2}$

$10x = 1.\overline{2}$

$100x - 10x = 90x$

$12.\overline{2} - 1.\overline{2} = 11$

$90x = 11$

$x = \frac{11}{90}$

Marla

$x = .1\overline{3}$

$100x = 13.\overline{3}$

$10x = 1.\overline{3}$

$100x - 10x = 90x$

$13.\overline{3} - 1.\overline{3} = 12$

$90x = 12$

$x = \frac{12}{90}$

Marla spent $\frac{1}{90}$ of an hour longer studying than Charlotte.

2. Derek spent $1.23\overline{4}$ hours in the gym working out, while Melissa spent $2.34\overline{5}$ hours working out. Express how much longer Melissa was working out as a mixed number. Show all of your work.

Derek

$x = 1.23\overline{4}$

$1000x = 1234.\overline{4}$

$100x = 123.\overline{4}$

$1000x - 100x = 900x$

$1234.\overline{4} - 123.\overline{4} = 11$

$900x = 1111$

$x = \frac{1111}{900}$

$x = 1\frac{211}{900}$

Melissa

$x = 2.34\overline{5}$

$1000x = 2345.\overline{5}$

$100x = 234.\overline{5}$

$1000x - 100x = 900x$

$2345.\overline{5} - 234.\overline{5} = 12$

$900x = 12$

$x = \frac{2111}{900}$

$x = 2\frac{311}{900}$

Melissa spent $1\frac{100}{900}$ or $1\frac{1}{9}$ hours longer working out than Derek.