

Rational Numbers

Exit Quiz

Answers:**Part A:** Express the following fractions as decimals and determine whether the decimal number terminates or repeats.

$$1. \frac{4}{9}$$

$$\begin{array}{r} 0.4444\dots \\ 9 \overline{)40000} \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

Non-terminating and repeating decimal

$$2. \frac{9}{11}$$

$$\begin{array}{r} 0.8181\dots \\ 11 \overline{)90000} \\ \underline{-88} \\ 20 \\ \underline{-11} \\ 90 \\ \underline{-88} \\ 20 \\ \underline{-11} \\ 9 \end{array}$$

Non-terminating and repeating decimal

$$3. \frac{13}{4}$$

$$\begin{array}{r} 3.25 \\ 4 \overline{)1300} \\ \underline{-12} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

Terminating and non-repeating decimal

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Part B: Express the following decimals as fractions.1. $2.\overline{33}$

$$x = 2.\overline{3}$$

$$(10)x = 2.\overline{3}(10)$$

$$10x = 23.\overline{3}$$

$$10x = 23.\overline{3}$$

$$x = 2.\overline{3}$$

$$9x = 21$$

$$\frac{9x}{9} = \frac{21}{9}$$

$$x = \frac{21}{9} \text{ or } 2\frac{1}{3}$$

2. $0.35 \dots$

$$x = 0.35 \dots$$

$$(100)x = 0.35 \dots (100)$$

$$100x = 35.35 \dots$$

$$100x = 35.35 \dots$$

$$x = 0.\overline{35}$$

$$99x = 35$$

$$\frac{99x}{99} = \frac{35}{99}$$

$$x = \frac{35}{99}$$

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3. $4.\overline{125}$

$$x = 4.\overline{125}$$

$$(1000)x = 4.\overline{125}(1000)$$

$$1000x = 4125.\overline{125}$$

$$1000x = 4125.\overline{125}$$

$$\underline{x = 4.\overline{125}}$$

$$999x = 4121$$

$$\frac{999x}{999} = \frac{4121}{999}$$

$$x = \frac{4121}{999} \text{ or } 4\frac{125}{999}$$