**Answers:**

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

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

Non-terminating and repeating decimal

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

Non-terminating and repeating decimal



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

Terminating and non-repeating decimal

**Part B:** Express the following decimals as fractions.

1. $2.\overbar{33}$

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

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

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

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

 $x=2.\overbar{3}$

$$9x=21$$

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

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

2. $0.35…$

$$x=0.35…$$

$$(100)x=0.35…(100)$$

$$100x=35.35…$$

$$100x=35.35…$$

 $x=0.\overbar{35}$

 $99x=35$

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

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

3. $4.\overbar{125}$

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

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

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

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

 $x=4.\overbar{125}$

 $999x=4121$

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

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