Repeating Decimals

How to write repeating decimals

We draw a line above decimal digits when they repeat over and over again.

For example: $0.\overline{3}$ is the same as the decimal 0.333333333333... (and so on)

$0.\overline{25}$ is the same as the decimal 0.252525252525... (and so on)

$0.1\overline{234}$ is the same as the decimal 0.1234343434... (and so on)

1.   Use a calculator to change these fractions into decimals.
      Try to use the notation described above.

$\dfrac{2}{3}$ = ... $\dfrac{3}{11}$ = ... $\dfrac{5}{6}$ = ...

2.   Complete the following explanation to convert $0.1\overline{6}$ into a fraction:

Let $x = 0.1\overline{6}$

$100x$ = ...

$10x$ = ...

$100x - 10x$ = ...

So, x ....

3.   Change each of these decimals into fractions.
      Please show your method clearly next to each question.

0.54 = ...	
$0.\overline{4}$ = ...	
$0.\overline{54}$ = ...	
$0.5\overline{9}$ = ...	

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Repeating Decimals (revisited)

> **How to write repeating decimals**
>
> We draw a line above decimal digits when they repeat over and over again.
>
> For example: $0.\overline{3}$ is the same as the decimal 0.333333333333... (and so on)
>
> $0.\overline{25}$ is the same as the decimal 0.252525252525... (and so on)
>
> $0.12\overline{34}$ is the same as the decimal 0.1234343434... (and so on)

1.   Use a calculator to change these fractions into decimals.
     Try to use the notation described above.

$$\frac{4}{3} = \text{... ... ...}$$ $$\frac{4}{11} = \text{... ... ...}$$ $$\frac{1}{6} = \text{... ... ...}$$

2.   Complete the following explanation to convert $0.8\overline{3}$ into a fraction:

Let $x = 0.8\overline{3}$

$100x = \text{........................}$

$10x = \text{........................}$

$100x - 10x = \text{........................}$

So, x ....

3.   Change each of these repeating decimals into fractions.
     Please show your method clearly next to each question.

$0.\overline{5} = \text{... ... ...}$	
$0.\overline{45} = \text{... ... ...}$	
$0.4\overline{9} = \text{... ... ...}$	