

Number - Recurring Decimals

Q1

Change $0.\dot{4}0\dot{3}$ to a fraction.

_____ [2]

Q2

Prove that the recurring decimal $0.\dot{3}\dot{6} = \frac{4}{11}$

(Total 3 marks)

Number - Recurring Decimals

Q1

Change $0.\dot{4}0\dot{3}$ to a fraction.

$$\text{Let } x = 0.403403403\dots$$

$$1000x = 403.403403403\dots$$

$$\text{Subtracting } \Rightarrow 999x = 403$$

$$x = \frac{403}{999}$$

$$\frac{403}{999}$$

[2]

Q2

Prove that the recurring decimal $0.\dot{3}\dot{6} = \frac{4}{11}$

$$\text{Let } x = 0.363636\dots$$

$$100x = 36.363636\dots$$

$$\text{Subtracting } \Rightarrow 99x = 36$$

$$x = \frac{36}{99} = \frac{4}{11}$$

$$\text{Therefore } 0.\dot{3}\dot{6} = \frac{4}{11}$$

(Total 3 marks)