

Recurring Decimals to Fractions

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You must **not** use a calculator.

- 1** (a) Write $\frac{7}{11}$ as a recurring decimal.

.....
(1)

- (b) Write $0.\dot{7}$ as a fraction.

.....
(1)

(Total for Question 1 is 2 marks)

- 2** Prove algebraically that $0.\dot{3}\dot{8} = \frac{38}{99}$

(2)

(Total for Question 2 is 2 marks)

- 3 Kwame says,
“ $0.\dot{7}\dot{2}$ is equal to $\frac{8}{11}$ ”

(a) Show that Kwame is wrong.

(1)

(b) Write $0.7\dot{2}$ as a fraction in its simplest form.

.....
(2)
(Total for Question 3 is 3 marks)

- 4 Express $0.4\dot{0}\dot{5}$ as a fraction in its simplest form.

.....
(2)
(Total for Question 4 is 2 marks)

- 5 Prove algebraically that $0.5\dot{2} = \frac{47}{90}$

(3)

(Total for Question 5 is 3 marks)

- 6 Express $1.2\dot{1}\dot{8}$ as a mixed number in its simplest form.

.....
(3)

(Total for Question 6 is 3 marks)

- 7 Prove algebraically that $0.1\dot{2}4\dot{3}$ can be written as $\frac{23}{185}$

(3)

(Total for Question 7 is 3 marks)

- 8 Write the ratio $0.\dot{3}\dot{6} : 0.3\dot{8}$ in the form $m : n$, where m and n are integers.
You must show your working.

.....
(5)

(Total for Question 8 is 5 marks)

- 9 x is an integer such that $\frac{x}{11}$ is between $0.\dot{3}$ and $0.\dot{5}$
Find all the possible values of x .
You must show your working.

.....
(2)

(Total for Question 9 is 2 marks)
