1MA1 Higher themed papers: Recurring decimals

Write your name here

Surname | Other names

Centre Number | Candidate Number

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

Mathematics

Recurring decimals

Paper Reference **1MA1**

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – there may be more space than you need.
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is **22**. There are **8** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets
  – use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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1 Using algebra, prove that $0.1\dot{3}\dot{6} \times 0.\dot{2}$ is equal in value to $\frac{1}{33}$

(Total for Question 1 is 3 marks)

2 Write these numbers in order of size.
Start with the smallest number.

$0.2\dot{4}\dot{6}$ $0.24\dot{6}$ $0.\dot{2}4\dot{6}$ 0.246

.....

(Total for Question 2 is 2 marks)

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3 Express $0.4\dot{1}\dot{8}$ as a fraction.
You must show all your working.

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(Total for Question 3 is 3 marks)

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4 Prove algebraically that $0.2\dot{5}\dot{6}$ can be written as $\frac{127}{495}$

(Total for Question 4 is 3 marks)

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5 $x = 0.4\dot{3}\dot{6}$

Prove algebraically that x can be written as $\frac{24}{55}$

(Total for Question 5 is 3 marks)

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6 Prove that the recurring decimal $0.4\dot{3}$ has the value $\frac{13}{30}$

(Total for Question 6 is 2 marks)

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7 Write $0.6\dot{2}\dot{4}$ as a fraction in its simplest form.

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(Total for Question 7 is 3 marks)

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8 Prove algebraically that the recurring decimal $0.\dot{4}5\dot{7}$ can be written as $\frac{151}{330}$

(Total for Question 8 is 3 marks)

TOTAL MARKS FOR PAPER: 22