

Recurring Decimals to Fractions

For AQA GCSE Mathematics (8300) • Higher tier

Name _____

Total marks: **26**

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

1 Convert each fraction to a recurring decimal.

(a) $\frac{5}{11}$

[1 mark]

Answer _____

(b) $\frac{7}{12}$

[2 marks]

Answer _____

2 Circle the fraction that is equal to 0.3

[1 mark]

$\frac{3}{10}$

$\frac{1}{3}$

$\frac{33}{100}$

$\frac{3}{100}$

3 Which of these fractions is equal to a recurring decimal?
Circle your answer.

[1 mark]

$\frac{3}{8}$

$\frac{7}{20}$

$\frac{2}{15}$

$\frac{9}{25}$

4 Prove that $0.\dot{2}\dot{7} = \frac{3}{11}$

[2 marks]

5 Convert $0.4\dot{6}$ to a fraction in its simplest form.

[3 marks]

Answer _____

6 Convert $0.2\dot{3}\dot{6}$ to a fraction in its simplest form.

[3 marks]

Answer _____

7 Work out $0.\dot{2}\dot{5} + 0.13$
Circle your answer.

[1 mark]

0.3825

$0.\dot{3}\dot{8}$

$0.38\dot{2}\dot{5}$

$0.382\dot{5}$

8 You are given that $\frac{1}{11} = 0.\dot{0}\dot{9}$

(a) Write $0.\dot{6}\dot{3}$ as a fraction in its simplest form.

[1 mark]

Answer _____

(b) Hence, or otherwise, write $0.3\dot{4}\dot{5}$ as a fraction in its simplest form.

[3 marks]

Answer _____

9 Work out $0.\dot{1} + 0.\dot{2}\dot{7}$

Give your answer as a fraction in its simplest form.

[3 marks]

Answer _____

10 Work out $(0.\dot{3} + 0.1\dot{6}) \div 0.4\dot{5}$

Give your answer as a fraction in its simplest form.

[5 marks]

Answer _____