GCSE HIGHER · REVISION MAT 1

Recurring decimals

1 Write $0.\dot{3}$ as a fraction.

2 Write $\frac{7}{9}$ as a recurring decimal.

3 Explain why $\frac{3}{8}$ is a terminating decimal.

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

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

6 Write $0.1\dot{6}$ as a fraction in its simplest form.

7 Show that $0.\dot{9} = 1$.

8 Write $0.2\dot{4}\dot{5}$ as a fraction in its simplest form.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Recurring decimals

1 $\frac{1}{3}$

2 $0.\dot{7}$

3 $8 = 2 \times 2 \times 2$: the denominator has only 2s and 5s as prime factors.

4 $\frac{45}{99}$

$\frac{5}{11}$

5 $x = 0.2727...$

$100x - x = 27$

$x = \frac{27}{99}$

$= \frac{3}{11}$

6 $100x - 10x = 16.6... - 1.6...$

$90x = 15$

$x = \frac{1}{6}$

7 $10x = 9.99...$

$10x - x = 9$

$9x = 9$, so $x = 1$

8 $1000x - 10x = 245.45... - 2.45...$

$990x = 243$

$\frac{27}{110}$