

GCSE Maths: Recurring decimals and fractions (Higher): worksheet

GCSE Maths - Fractions - Higher - Lesson 3.3

Name: _____

Date: _____

Score: _____

10 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch03-fractions/higher/recurring-decimals-and-fractions/

Exercise 3C Recurring decimals Non-calculator

1 Without dividing, say whether each fraction gives a terminating or recurring decimal.

(a) $\frac{3}{8}$

Answer: _____

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

Answer: _____

(c) $\frac{9}{20}$

Answer: _____

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

Answer: _____

(e) $\frac{13}{40}$

Answer: _____

(f) $\frac{4}{15}$

Answer: _____

(g) $\frac{17}{25}$

Answer: _____

(h) $\frac{5}{6}$

Answer: _____

2 Write each fraction as a decimal, using dot notation for recurring decimals.

(a) $\frac{2}{11}$

Answer: _____

(b) $\frac{5}{6}$

Answer: _____

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

Answer: _____

(d) $\frac{4}{7}$

Answer:

(e) $\frac{1}{9}$

Answer:

(f) $\frac{3}{22}$

Answer:

3 Write each recurring decimal as a fraction in its simplest form.

(a) $0.\dot{5}$

Answer:

(b) $0.1\dot{4}$

Answer:

(c) $0.1\dot{6}$

Answer:

(d) $0.2\dot{7}$

Answer:

(e) $0.\dot{6}\dot{3}$

Answer:

(f) $0.0\dot{4}\dot{5}$

Answer:

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

Answer:

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

Answer:

6 Work out $0.\dot{3} + 0.\dot{6}$ as a fraction, using the fraction for each.

Answer:

7 Explain why $\frac{7}{12}$ gives a recurring decimal but $\frac{7}{20}$ gives a terminating decimal.

Answer:

8 Given that $0.\dot{1}4285\dot{7} = \frac{1}{7}$, write down $\frac{2}{7}$ as a recurring decimal. Explain your answer.

Answer:

9 Write down three different fractions with denominators less than 30 that give terminating decimals but are **not** unit fractions.

Answer:

10 Challenge. Write $0.1\dot{3}\dot{5}$ as a fraction in its simplest form.

Answer:

