

SCORE  
A

# Numbers

With Classified  
answer book

8

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## 14- Fractions and Recurring Decimals

1. Write  $\frac{9}{10}$  as a terminating decimal.

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2. Write  $\frac{3}{20}$  as a terminating decimal.

.....

3. Write  $\frac{4}{5}$  as a terminating decimal.

.....

4. Write  $\frac{3}{4}$  as a terminating decimal.

.....

5. Write  $\frac{9}{40}$  as a terminating decimal.

.....

6. Write  $\frac{5}{8}$  as a terminating decimal.

.....

7. a. Work out the decimal equivalent of  $\frac{1}{25}$

b. Is  $\frac{1}{25}$  a terminating or recurring decimal?

c. Use your answers to parts a and b to write the decimal equivalents of these fractions.  
Write if each fraction is terminating or recurring.

i.  $\frac{2}{25}$

ii.  $\frac{5}{25}$

iii.  $\frac{11}{25}$

8. Decide if these statements about proper fractions are 'Always true', 'Sometimes true' or 'Never true'. Justify your answers.

a. A fraction with a denominator of 14 is a recurring decimal.

b. A fraction with a denominator which is a multiple of 5 is a recurring decimal.

c. A unit fraction with a denominator which is a multiple of 15 is a terminating decimal.

d. A fraction with a denominator which is a power of 3 is a recurring decimal.

9. Use the short division method to find the decimal equivalent of the fractions.

a)  $\frac{1}{4} = \boxed{\phantom{00}}$

b)  $\frac{4}{5} = \boxed{\phantom{00}}$

10. Without using a calculator, decide if these fractions are terminating or recurring decimals.

a.  $\frac{8}{3}$

b.  $\frac{21}{5}$

c.  $\frac{28}{9}$

d.  $\frac{39}{12}$

11. Draw a ring around all the fractions that are equivalent to recurring decimals.

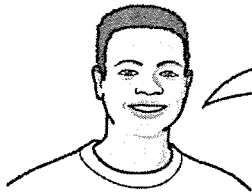
$\frac{1}{3}$

$\frac{1}{5}$

$\frac{1}{7}$

$\frac{1}{8}$

12. Carlos says,



All fractions with an odd denominator are equivalent to recurring decimals, for example,  $\frac{1}{3} = 0.31$

Find an example to show that Carlos is **wrong**.

13. Shown below are four fractions.

$$\frac{5}{8} \quad \frac{1}{3} \quad \frac{2}{7} \quad \frac{11}{20}$$

Circle any fractions which are recurring decimals.

14. Write the fraction below as a recurring decimal.  $\frac{4}{7}$

15. a. Write the fraction below as a recurring decimal.  $\frac{3}{11}$

.....

b. Use your answers to part a to write the values of

$$\frac{3}{11}, \frac{4}{11}, \frac{5}{11}, \frac{6}{11}$$

16. a.  $\frac{1}{5}$  is equivalent to a terminating decimal.

Use this information to deduce if  $\frac{3}{5}$  is a terminating or recurring decimal.

b.  $\frac{1}{3}$  is equivalent to a recurring decimal.

Use this information to deduce if  $\frac{2}{3}$  is a terminating or recurring decimal.

17. Read what Marcus and Zara say.

Any fraction with a denominator which is a multiple of 9 is a recurring decimal.

That's not true, because  $\frac{9}{36} = \frac{1}{4}$  which is not recurring and  $\frac{9}{18} = \frac{1}{2}$  which is not recurring.

What must Marcus add to his statement to make it true?

18. Write each number of minutes as a fraction of an hour.

Decide if each fraction of an hour is a terminating or recurring decimal.

a. 15 minutes

b. 48 minutes

19. Without using a calculator, decide if these fractions are terminating or recurring decimals.

a  $\frac{19}{6}$

b  $\frac{15}{12}$

c  $\frac{38}{7}$

d  $\frac{35}{14}$

20.

I converted  $\frac{1}{2}$  to a decimal and got the answer 2

Jack is incorrect.

Explain the mistake that Jack has made.

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21. Filip is thinking of a fraction.

When he converts it to a decimal, it is smaller than 0.5 but greater than 0.4 What fraction could Filip be thinking of?

Are there any other possible answers?

22. Use the short division method to find the decimal equivalent of

$$\frac{1}{3}$$