

WA7MNAUN2

Understanding number

Core + Challenge

# Decimals and Fractions

I can use place value to move between decimals and fractions.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 53

## Key idea

**Decimal → fraction:** use place value, then simplify.  $0.35 = 35 \text{ hundredths} = \frac{35}{100} = \frac{7}{20}$   $0.125 = \frac{125}{1000} = \frac{1}{8}$

**Fraction → decimal:** make a denominator of 10, 100 or 1000.  $\frac{9}{20} = \frac{45}{100} = 0.45$

Or divide the numerator by the denominator:  $\frac{3}{8} = 3 \div 8 = 0.375$

Some fractions give **recurring** decimals:  $\frac{1}{3} = 0.333\dots$  (written 0.3 with a dot above the 3)

A

**Fluency** *practise the skill*

/ 16 marks

Q1–8: write as a fraction or mixed number in simplest form. Q9–16: write as a decimal.

1.  $0.7 =$  \_\_\_\_\_

9.  $\frac{3}{10} =$  \_\_\_\_\_

2.  $0.25 =$  \_\_\_\_\_

10.  $\frac{7}{100} =$  \_\_\_\_\_

3.  $0.6 =$  \_\_\_\_\_

11.  $\frac{1}{4} =$  \_\_\_\_\_

4.  $0.45 =$  \_\_\_\_\_

12.  $\frac{3}{5} =$  \_\_\_\_\_

5.  $0.08 =$  \_\_\_\_\_

13.  $\frac{9}{20} =$  \_\_\_\_\_

6.  $0.125 =$  \_\_\_\_\_

14.  $\frac{7}{25} =$  \_\_\_\_\_

7.  $2.5 =$  \_\_\_\_\_

15.  $\frac{3}{8} =$  \_\_\_\_\_

8.  $1.36 =$  \_\_\_\_\_

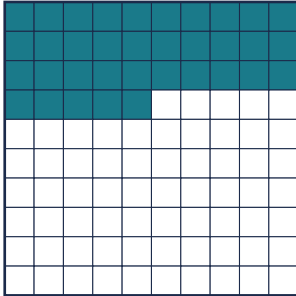
16.  $1\frac{3}{4} =$  \_\_\_\_\_

**B**

**Core** *apply the skill to problems*

/ 21 marks

- 1 The grid shows one whole. Write the shaded part as a decimal and as a fraction in simplest form. [2 marks]



Answer: \_\_\_\_\_

- 2 A sprinter's time was 12.4 seconds. Write this as a mixed number in simplest form. [2 marks]

.....

Answer: \_\_\_\_\_

- 3 A recipe needs  $\frac{3}{4}$  cup of oil. Ava's measuring jug is marked in decimals of a cup. What reading should she use? [2 marks]

.....

Answer: \_\_\_\_\_

- 4 Write in order from smallest to largest: 0.6  $\frac{5}{8}$  0.58  $\frac{3}{5}$  [3 marks]

.....

.....

Answer: \_\_\_\_\_

- 5 In a class, 13 of the 20 students are girls. Write this as a fraction and as a decimal. [2 marks]

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Answer: \_\_\_\_\_

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- 6 A 2 L bottle contains 1.25 L of water. What fraction of the bottle is full? Give your answer in simplest form. [2 marks]

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.....

Answer: \_\_\_\_\_

- 7 Emma ran 2.75 km. Write this distance as a mixed number. [2 marks]

.....

Answer: \_\_\_\_\_

- 8 A calculator shows  $5 \div 8 = 0.625$ . Write 0.625 as a fraction in simplest form and explain why this checks the calculator. [2 marks]

.....  
.....

Answer: \_\_\_\_\_

- 9 Fuel costs \$1.95 per litre. Write the 95 cents as a fraction of a dollar in simplest form. [2 marks]

.....

Answer: \_\_\_\_\_

- 10 Use a calculator to write  $\frac{1}{3}$  and  $\frac{2}{3}$  as decimals. What do you notice? [2 marks]

.....

Answer: \_\_\_\_\_

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**C****Reasoning** *explain, justify and check*

/ 9 marks

- 1 Zoe says  $0.5 = \frac{1}{5}$ . Explain her mistake. [2 marks]

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.....

- 2 Use fractions to explain why  $0.30 = 0.3$ . [2 marks]

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- 3 Explain why  $\frac{3}{20}$  is easy to write as an exact decimal, but  $\frac{1}{3}$  is not. [3 marks]

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- 4 True or false:  $0.7 > \frac{2}{3}$ ? Justify your answer. [2 marks]

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**D****Challenge** *multi-step and problem-solving*

/ 7 marks

- 1 Find a fraction with a denominator of 40 that lies between 0.4 and 0.45. [2 marks]

.....

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Answer: \_\_\_\_\_

- 2 Write 0.0625 as a fraction in simplest form. [2 marks]

.....

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Answer: \_\_\_\_\_

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- 3 A decimal has two decimal places. In simplest form, its fraction has a denominator of 25. The decimal is between 0.5 and 0.6. Find all possible decimals. [3 marks]

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Answer: \_\_\_\_\_

**How did I go?**

Fluency \_\_\_\_ / 16   Core \_\_\_\_ / 21   Reasoning \_\_\_\_ / 9   Challenge \_\_\_\_ / 7   **Total \_\_\_\_ / 53**

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