

WA6MNAUN2

Understanding number

Core + Challenge

Place Value with Decimals

I can explain how each place is 10 times the place to its right, including tenths, hundredths and thousandths.

Name: _____ Date: _____ Score: _____ / 56

Key idea

Each place is worth **10 times** the place on its right, and **one tenth** ($\frac{1}{10}$) of the place on its left.

1 one = 10 tenths. 1 tenth = 10 hundredths. 1 hundredth = 10 thousandths.

The **value** of a digit depends on its place. In 4.73 the 7 is in the tenths place, so it is worth 0.7.

Example: $3.52 \times 10 = 35.2$. Every digit moves **one place to the left**. The decimal point does not move.

	Tens	Ones	Tenths	Hundredths	Thousandths
3.52		3	5	2	
3.52×10	3	5	2		

A

Warm up *count, draw and write*

/ 16 marks

Write the number shown by the counters. 1 mark each.

1

Ones	Tenths	Hundredths	Thousandths
○○		○○○○ ○	

2

Ones	Tenths	Hundredths	Thousandths
○	○○○		○○○○ ○○○

3

Ones	Tenths	Hundredths	Thousandths
	○○○○	○○○○ ○○	○○

4

Ones	Tenths	Hundredths	Thousandths
○○○			○○○○ ○○○○ ○

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Write the **value** of the digit. 1 mark each.5 the **6** in 2.5686 the **4** in 41.37 the **9** in 0.2098 the **3** in 5.34

Draw counters in the chart to show each number. 1 mark each.

9 Show **1.24**

Ones	Tenths	Hundredths	Thousandths

10 Show **0.305**

Ones	Tenths	Hundredths	Thousandths

11 Show **2.06**

Ones	Tenths	Hundredths	Thousandths

12 Show **0.018**

Ones	Tenths	Hundredths	Thousandths

Fill in the box. 1 mark each.

13 $1 = \square$

hundredths

14 $0.1 = \square$

thousandths

15 $0.07 \times 10 = \square$ 16 $4 \div 10 = \square$ **B** Practise *use the skill*

/ 21 marks

1 Write each number in the place-value chart. Put one digit in each box you need.

[3 marks]

	Tens	Ones	Tenths	Hundredths	Thousandths
36.25					
4.807					
0.093					

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- 2 Each row shows **one** number written in different ways. Complete the table. [3 marks]

Number	Ones and tenths	Tenths only	Hundredths only
4.6	4 ones 6 tenths		
		123 tenths	
			250 hundredths

- 3 Write the digits of 0.46×10 and $0.46 \div 10$ in the chart. Then write each answer. [2 marks]

	Ones	Tenths	Hundredths	Thousandths
0.46	0	4	6	
0.46×10				
$0.46 \div 10$				

Answer: _____

- 4 There are **10** ten-cent coins in \$1. **a)** How many ten-cent coins make \$4.30? **b)** How many ten-cent coins make \$12.50? [2 marks]

Answer: _____

- 5 At the school athletics carnival, Ella's 100 m time was **14.387 seconds**. **a)** What is the value of the 8? **b)** Mia was exactly **one tenth** of a second faster. What was Mia's time? **c)** Zoe was **one thousandth** of a second slower than Ella. What was Zoe's time? [3 marks]

Answer: _____

- 6 This number line is zoomed in between 3.4 and 3.5. **a)** Write the numbers at A and B. **b)** Mark C at 3.46. [2 marks]



Answer: _____

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- 7 Draw a line to join each number to the amount with the **same** value.

[2 marks]

0.4 •

• 5 thousandths

0.07 •

• 40 hundredths

2 •

• 20 tenths

0.005 •

• 70 thousandths

- 8 In **7.77** each 7 has a different value. **a)** Write the value of each 7. **b)** How many times bigger is the first 7 than the second 7?

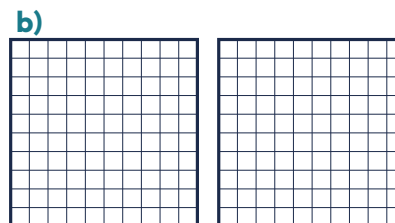
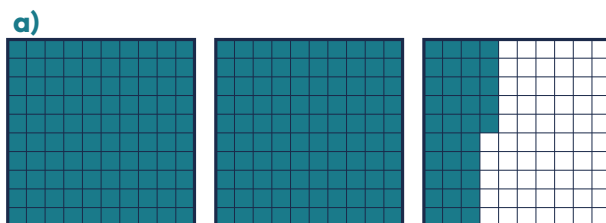
[2 marks]

Ones	Tenths	Hundredths
7	7	7

Answer: _____

- 9 Each large square is **1 whole**. **a)** What number is shown? **b)** Shade the two empty squares to show **1.08**.

[2 marks]



Answer: _____

C**Think it through** *explain your thinking*

/ 10 marks

- 1 Noah says, " $0.5 \times 10 = 0.50$, because when you multiply by 10 you add a zero." Do you agree with Noah? Explain. [2 marks]

- 2 **True or false?** "When a digit moves from the hundredths place to the tens place, it becomes 1000 times bigger." Explain, using an example. [2 marks]

- 3 **Always, sometimes or never true?** "In a decimal, the tenths digit is worth more than the hundredths digit." Circle one and give examples. [2 marks]

Always / Sometimes / Never

- 4 Which is the **odd one out**? 2.5, 25 tenths, 250 hundredths, 25 hundredths. Explain. [2 marks]

- 5 Sort these numbers into the table: 0.42, 4.24, 3.4, 0.04, 1.049, 0.4, 2.413, 0.249. Explain where you put **0.04**. [2 marks]

	Less than 1	1 or more
4 in the tenths place		
No 4 in the tenths place		

D**Challenge** *stretch yourself*

/ 9 marks

- 1** Use the cards **3, 0, 7** and **5** once each to make numbers like 3.057 (one digit before the decimal point, three after). **a)** Make the **smallest** number. **b)** Make the number **closest to 5**. **c)** Make the **largest** number with a **7 in the hundredths** place. [3 marks]

Answer: _____

- 2** I think of a number. I divide it by 10, then divide by 10 again. My answer is **0.047**. [3 marks]
a) What was my number? **b)** Lucy multiplies my number by 10 three times. What is her answer? **c)** How many times bigger is Lucy's answer than 0.047?

Answer: _____

- 3** **Who am I?** I am less than 10 and I have three decimal places. My tenths digit is **double** my ones digit. My hundredths digit is **one less** than my tenths digit. My thousandths digit is the **sum** of my other three digits. **a)** Find **both** numbers that fit these clues. **b)** Another clue: my thousandths digit is **odd**. Which number am I? **c)** How many thousandths am I? [3 marks]

Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**Want help with Year 6 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**