

6Np.01 Understand and explain the value of each digit in decimals (tenths, hundredths and thousandths). **6Np.03** Compose, decompose and regroup numbers, including decimals (tenths, hundredths and thousandths).

Revising Place Value through Millions

You can write numbers in different ways using words and digits. The place value chart below shows the value of each digit in the number 4,762,731. Below the chart, the number appears in standard form, word form, and expanded form.

Commas

use commas every three places in numbers of four or more digits.

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundred	Tens	Ones
4	7	6	2	7	3	1

Standard form Uses digits: 4,762,731

Word form Uses words to write the number the way you say it:

Four million, Seven hundred sixty-two thousand, seven hundred thirty-one

Expanded form Uses the place value of each digit to write the number: $4,000,000 + 700,000 + 60,000 + 2,000 + 700 + 30 + 1$

Place Value						
Millions		Ten thousands		Hundreds		Units
3	1	4	7	2	8	6
	Hundred thousands		Thousands		Tens	

Value						
3,000,000		40,000		200		6
3	1	4	7	2	8	6
	100,000		7000		80	



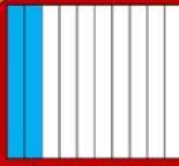
Decimals Place Value



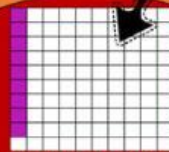
							Decimal point			
Millions	Hundred Thousands	Ten Thousands	(Thousands	Hundreds	Tens	Ones	.	tenths	hundredths	thousandths
3	0	1	5	2	6	8	.	4	9	7

Place Value Charts

tens	ones	tenths	hundredths	thousandths
1	3	2	9	8



This is the tenths column because it means 2 out of ten equal parts!



This is the hundredths column because it means 9 out of one hundred equal parts!

This is the thousandths column because it means 8 out of one thousand equal parts!
Imagine what this might look like!

hundred-thousands	ten-thousands	thousands	hundreds	tens	ones	tenths	hundredths	thousandths
4	2	9	3	6	5	4	7	2

Q.1 Complete the table to show what the digits in the number **32.759** represent.

Digit	Place value
3	
2	
7	tenths
5	
9	

Q.2 Complete the table to show what the digits in the number **59.017** represent.

Digit	Place value
9	
5	tens
1	
0	
7	

tenths
hundredths
thousandths



10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
1	3	1	3	6



Number	Place Value (of the red digit)	Value of the Digit (of the red digit)
3.145	Ones	3
3.145	Tenths	$\frac{1}{10} = 0.1$
3.145	Hundredths	$\frac{4}{100} = 0.04$
3.145	Thousandths	$\frac{5}{1000} = 0.005$

What is the value of the underlined digit?

854.327 - The value of the digit 8 is **8 hundreds**, or **800**.

854.327 - The value of the digit 5 is **5 tens**, or **50**.

854.327 - The value of the digit 4 is **4 ones**, or **4**.

854.327 - The value of the digit 3 is **3 tenths**, or **0.3**.

854.327 - The value of the digit 2 is **2 hundredths**, or **0.02**.

854.327 - The value of the digit 7 is **7 thousandths**, or **0.007**.



Q.3 Write the value of the underlined digit.

a. 104.543 - _____

b. 61.239 - _____

c. 723.9 - _____

d. 873.03 - _____

e. 5.768 - _____

f. 100.502 - _____

g. 7 - _____

h. 57.362 - _____



Reading & Writing Decimals



Q.4 Write these numbers in words.

Examples: 61,345.31 = Sixty-one thousand, three hundred and forty- five point three one.

1,836.245= One thousand, eight hundred and thirty-six point
two four five.

a. **272.32** = _____



b. **6,914.173** = _____

c. **30, 015.299** = _____

Q.5 Write these numbers in digits.

Example: Seventy-two thousand, six hundred and seven point five one three –
72, 607.513

a. Three thousand, one hundred and twelve point three eight =

b. Sixty thousand, two hundred and twenty-two point four seven six=



Decomposing Decim

85.45
↓ ↓
Eighty-five poin



Decompose: break down a number into its parts (hundreds, tens, ones, tenths, hundredths and thousandths)

$$\begin{array}{r}
 431.582 \\
 = 400. \\
 + 30. \\
 + 1. \\
 + 0.5 \\
 + 0.08 \\
 + 0.002
 \end{array}$$

Q.6 Decompose the following numbers.

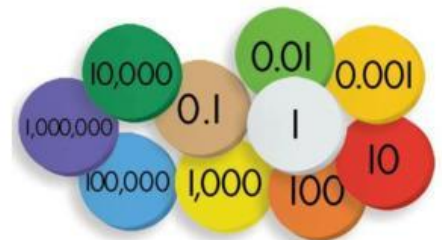
Examples: $61,345.32 = 60,000 + 1,000 + 300 + 40 + 5 + 0.3 + 0.02$

$-1,836.217 = -1,000 - 800 - 30 - 6 - 0.2 - 0.01 - 0.007$

a. **3.431** = _____

b. **24.056** = _____

c. **-905.001** = _____



Composing decimals

- Compose: Put number together from its parts (hundreds, tens, ones, tenths, hundredths and thousandths)

$$\begin{array}{r} 400. \\ + 30. \\ + 1. \\ + 0.5 \\ + 0.08 \\ + 0.002 \\ \hline = 431.582 \end{array}$$

Q.7 Add these numbers together and write the total using digits:

a) $2 + 0.4 + 0.05$ _____

b) $30 + 2 + 0.5 + 0.01$ _____

c) $20 + 4 + 0.2 + 0.01 + 0.008$ _____

d) $300 + 40 + 2 + 0.5 + 0.05 + 0.009$ _____

e) $500 + 40 + 2 + 0.5 + 0.003$ _____

f) $-3 - 0.4 - 0.05 - 0.008$ _____

g) $-90 - 4 - 0.2 - 0.01 - 0.009$ _____