

Lesson 1: Decimals as Fractions

Warm up

Match the statements to the decimals.

7 ones, 4 tenths and 5 hundredths

5.47

5 ones, 7 tenths and 4 hundredths

4.75

4 ones, 7 tenths and 5 hundredths

7.45

5 ones, 4 tenths and 7 hundredths

5.74

Were you correct?

Match the statements to the decimals.

7 ones, 4 tenths and 5 hundredths	5.47
5 ones, 7 tenths and 4 hundredths	4.75
4 ones, 7 tenths and 5 hundredths	7.45
5 ones, 4 tenths and 7 hundredths	5.74

Varied Fluency 1

Circle the fraction and decimal which match the picture.



0.9

$$\frac{9}{100}$$

0.09

$$\frac{90}{100}$$

Lets use our knowledge of fractions to start. We know that the denominator shows us how many parts the shape is broken into. Count the squares.

Varied Fluency 1

Circle the fraction and decimal which match the picture.



0.9

$\frac{9}{100}$

0.09

$\frac{90}{100}$

$\frac{?}{10}$

Now we know the denominator is 10. We can work out the numerator by counting the squares shaded in.

Varied Fluency 1

Circle the fraction and decimal which match the picture.



0.9

$\frac{9}{100}$

0.09

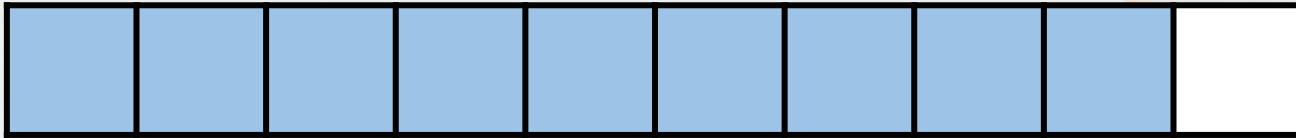
$\frac{90}{100}$

$\frac{9}{10}$

Great we have the fraction, in its simplest form. Can you spot the equivalent?

Varied Fluency 1

Circle the fraction and decimal which match the picture.



0.9

$\frac{9}{100}$

0.09

$\frac{90}{100}$

$\frac{9}{10}$

How can we use this to find the decimal equivalent?

Varied Fluency 1

Circle the fraction and decimal which match the picture.

$$\frac{9}{10}$$



0.9

$$\frac{9}{100}$$

0.09

$$\frac{90}{100}$$

Place Value

Tm	M	Hth	Tth	Th	H	T	O	t	h	th
Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
10 000 000	1 000 000	100 000	10 000	1000	100	10	1	0.1 $\frac{1}{10}$	0.01 $\frac{1}{100}$	0.001 $\frac{1}{1000}$

Varied Fluency 1

Circle the fraction and decimal which match the picture.

$$\frac{9}{10}$$



0.9

$$\frac{9}{100}$$

0.09

$$\frac{90}{100}$$

Place Value

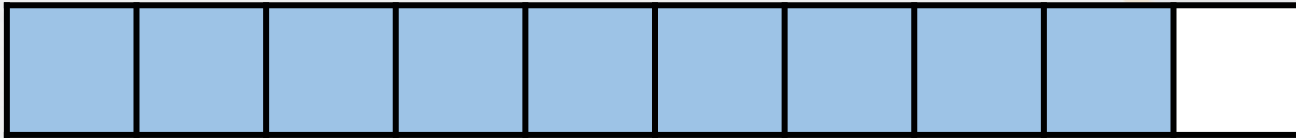
Tm	M	Hth	Tth	Th	H	T	O	t	h	th
Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
10 000 000	1 000 000	100 000	10 000	1 000	100	10	1	0.1 $\frac{1}{10}$	0.01 $\frac{1}{100}$	0.001 $\frac{1}{1000}$

0.9

Look at our first fraction $\frac{9}{10}$. This tells us there is 9 under the tenths column. If we write it in our place value chart. We now know it is 0.9

Fantastic!!!

Circle the fraction and decimal which match the picture.



0.9

$\frac{9}{100}$

0.09

$\frac{90}{100}$

Now can you use the place value chart to match these fractions and decimals. Match the fractions to their decimal equivalents.

A. $\frac{6}{100}$

0.6

Top tip. If it is 6/100. Write the 6 in the hundredth place value column and use place holders. 0.06.

B. $\frac{6}{10}$

0.65

C. $\frac{65}{100}$


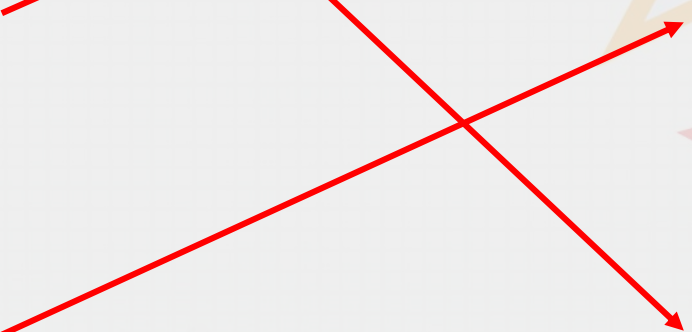
0.06

Place Value

Tm	M	Hth	Tth	Th	H	T	O	t	h	th
Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
10 000 000	1 000 000	100 000	10 000	1000	100	10	1	0.1 $\frac{1}{10}$	0.01 $\frac{1}{100}$	0.001 $\frac{1}{1000}$

Were you correct?

Match the fractions to their decimal equivalents.

A. $\frac{6}{100}$   0.6

B. $\frac{6}{10}$ 0.65

C. $\frac{65}{100}$ 0.06

Now can you use these skills to complete this table.

Complete the table below.

#Top tip. Write them in your place value columns

Fractions	Decimals
$\frac{25}{100}$	
	0.07
$\frac{1}{2}$	

Were you correct

Complete the table below.

Fractions	Decimals
$\frac{25}{100}$	0.25
$\frac{7}{100}$	0.07
$\frac{1}{2}$	0.5

Easy!

Don't forget to use your place value columns to help.

Match the decimals below to their expanded forms.

0.68

$8 + 0.06$

6.08

$6 + 0.8$

8.6

$0.6 + 0.08$

8.06

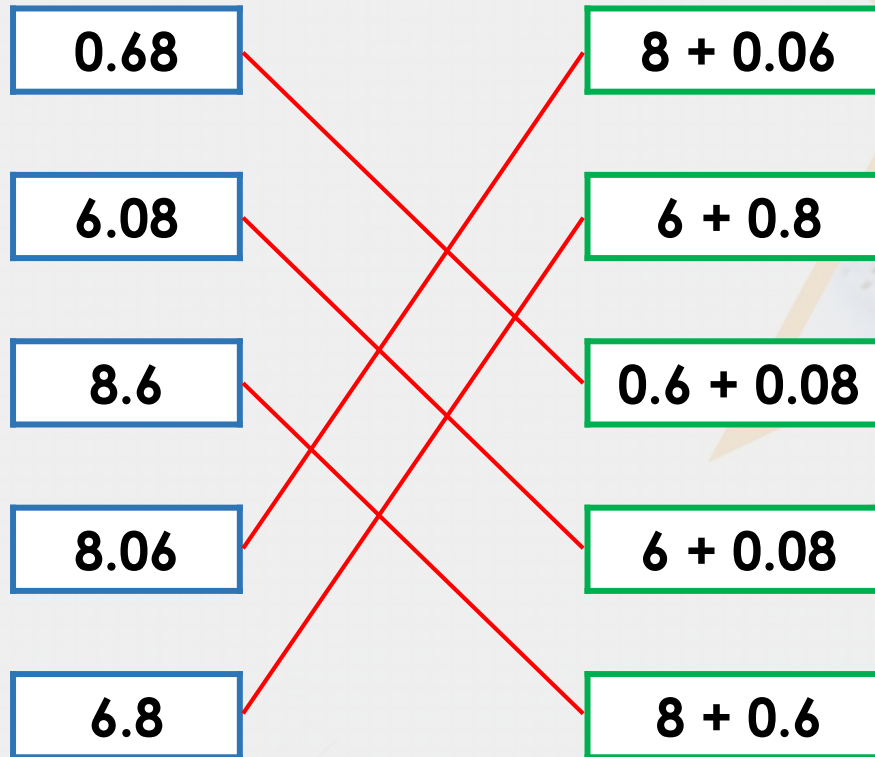
$6 + 0.08$

6.8

$8 + 0.6$

Introduction

Match the decimals below to their expanded forms.



Now complete p6 and 7 from your work pack.

Converting Decimal Tenths and Hundredths to Fractions

Converting decimals tenths and hundredths to fractions couldn't be easier - all you need is a place value chart! To convert from a decimal into a fraction, we write the number on the place value chart then **read the number off the place value chart**.

0.7 =	Ones		tenths	No ones and 7 tenths. So the fraction is... $\frac{7}{10}$!
	0	.	7	

A. Write these decimals into the place value chart. Read the place value and write the decimal as a fraction. The first question has been completed for you.

Decimal	Place Value Chart			How many tenths?
0.7	Ones		tenths	7 tenths = $\frac{7}{10}$
	0	.	7	
0.3	Ones		tenths	
		.		
zero point two	Ones		tenths	
		.		
0.4	Ones		tenths	
		.		
0.1	Ones		tenths	
		.		
0.9	Ones		tenths	
		.		

B. Complete the table.

Decimal	Place Value Chart			H
0.73	Ones		tenths	73
	0	.	7	
0.20	Ones		tenths	
	0	.		
zero point four six	Ones		tenths	
	0	.		
nought point nought 4	Ones		tenths	
	0	.		
0.42	Ones		tenths	
	0	.		
0.66	Ones		tenths	
	0	.		
0.99	Ones		tenths	
	0	.		

Reasoning 1

Seth says,



$\frac{1}{4}$ is equal to 0.25

$\frac{1}{4}$ is equal to 1.4

Leticia says,



Who is correct? Prove it.

Reasoning 1

Seth says,



$\frac{1}{4}$ is equal to 0.25

$\frac{1}{4}$ is equal to 1.4

Leticia says,



Who is correct? Prove it.

Seth is correct because...

Reasoning 1

Seth says,



$\frac{1}{4}$ is equal to 0.25

$\frac{1}{4}$ is equal to 1.4

Leticia says,



Who is correct? Prove it.

Seth is correct because $\frac{1}{4}$ is equal to $\frac{25}{100}$ which is equal to 0.25.