

# Reasoning and Problem Solving

## Step 8: Hundredths as Decimals

### National Curriculum Objectives:

Mathematics Year 4: (4F6b) [Recognise and write decimal equivalents of any number of tenths or hundredths](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Explain which statement is correct using decimals smaller than one.

**Expected** Explain which statement is correct using decimals smaller than one and zero as a place holder.

**Greater Depth** Explain which statement is correct using decimals greater than one and zero as a place holder.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Use three digit cards to make three decimals less than one, demonstrating understanding by including equivalent fractions. Zero given in ones.

**Expected** Use four digit cards to make three decimals less than one, demonstrating understanding by including equivalent fractions.

**Greater Depth** Use six digit cards to make three decimals greater than one, demonstrating understanding by including equivalent fractions.

Questions 3, 6 and 9 (Reasoning)

**Developing** Explain whether an inequality statement is correct using decimals less than one, some visual support.

**Expected** Explain whether an inequality statement is correct using decimals less than one with zero as a place holder.

**Greater Depth** Explain whether an inequality statement is correct using decimals greater than one with zero as a place holder.

More [Year 4 Decimals](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Hundredths as Decimals

1a. Who is correct?

$$\frac{68}{100} = 0.68$$



Jim

This decimal is correct because it shows sixty eight hundredths.

This decimal is incorrect because it only shows eight hundredths.



Maya

Explain your answer.



R

# Hundredths as Decimals

1b. Who is correct?

$$\frac{24}{100} = 0.42$$



Sally

This decimal is correct because it shows twenty-four hundredths.

This decimal is incorrect because the hundredths digit is 2.



Zen

Explain your answer.



R

2a. Use the digit cards to make three decimals less than one.

0	.		
---	---	--	--



Write the equivalent fraction for each decimal you create.



PS

2b. Use the digit cards to make three decimals less than one.

0	.		
---	---	--	--



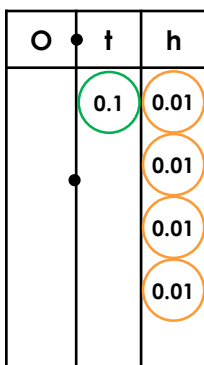
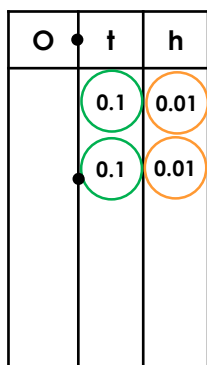
Write the equivalent fraction for each decimal you create.



PS

3a. Is this statement correct?

$$0.22 < 0.14$$



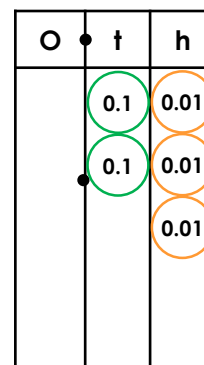
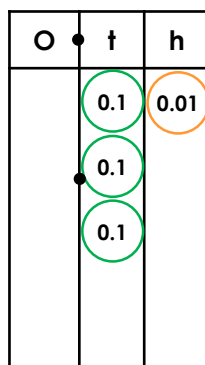
Explain your answer.



R

3b. Is this statement correct?

$$0.31 > 0.23$$



Explain your answer.



R

## Hundredths as Decimals

4a. Who is correct?

$$\frac{6}{100} = 0.06$$



Leo

This decimal is incorrect, it should be 0.6

This decimal is correct because it shows six hundredths.



Lucy

Explain your answer.



R

## Hundredths as Decimals

4b. Who is correct?

$$\frac{90}{100} = 0.09$$



Emily

The decimal is correct because it shows nine hundredths.

The decimal is incorrect as it only shows nine hundredths.



Callum

Explain your answer.



R

5a. Use the digit cards to make three decimals less than one.

.



Write the equivalent fraction for each decimal you create.



PS

5b. Use the digit cards to make three decimals less than one.

.



Write the equivalent fraction for each decimal you create.



PS

6a. Is this statement correct?

$$0.90 > 0.09$$

Explain your answer.



R

6b. Is this statement correct?

$$0.68 > 0.86$$

Explain your answer.



R

## Hundredths as Decimals

## Hundredths as Decimals

7a. Who is correct?

$$1 \text{ and } \frac{75}{100} = 1.85$$



Sameeha

The decimal number is one hundredth greater than the fraction.

The decimal number is ten hundredths greater than the fraction.



Joshua

Explain your answer.



R

7b. Who is correct?

$$1 \text{ and } \frac{50}{100} = 1.51$$



John

The decimal number is one hundredth greater than the fraction.

The decimal has the same number of hundredths as the fraction



Jane

Explain your answer.



R

8a. Use the digit cards to make three decimals that are greater than one with an even hundredths digit.

□	.	□	□
---	---	---	---

8	2	1	0	5	4
---	---	---	---	---	---

Write the equivalent fraction for each decimal you create.



PS

8b. Use the digit cards to make three decimals that are greater than one with a hundredths digit less than four.

□	.	□	□
---	---	---	---

3	0	5	9	1	7
---	---	---	---	---	---

Write the equivalent fraction for each decimal you create.



PS

9a. Is this statement correct?

$$1.1 > 1.10 = 1.01$$

Explain your answer.



R

9b. Is this statement correct?

$$1.21 > 1.20 > 1.12$$

Explain your answer.



R

## Reasoning and Problem Solving Hundredths as Decimals

### Developing

- 1a. Jim is correct. 6 tenths and 8 hundredths make 68 hundredths.
- 2a. Various answers, for example:  
 $0.79$  and  $\frac{79}{100}$ ;  $0.29$  and  $\frac{29}{100}$ ;  $0.92$  and  $\frac{92}{100}$
- 3a. No, 22 hundredths are greater than 14 hundredths.

### Expected

- 4a. Lucy is correct. 0 tenths and 6 hundredths together make 6 hundredths.
- 5a. Various answers, for example:  
 $0.25$  and  $\frac{25}{100}$ ;  $0.02$  and  $\frac{2}{100}$ ;  $0.52$  and  $\frac{52}{100}$
- 6a. Yes, 0 hundredths and 9 tenths is greater than 9 hundredths and 0 tenths.

### Greater Depth

- 7a. Joshua is correct, 85 hundredths is 10 hundredths more than 75 hundredths.
- 8a. Various answers, for example:  
 $2.84$  and  $2\frac{84}{100}$ ;  $1.40$  and  $1\frac{40}{100}$ ;  $4.08$  and  $4\frac{8}{100}$
- 9a. No. 1.01 is not greater than 1.10. Either 1.01 should be a number greater than 1.10, or = should be replaced by >

## Reasoning and Problem Solving Hundredths as Decimals

### Developing

- 1b. Zen is correct. 24 hundredths should have 2 as the tenths digit and 4 as the hundredths digit.
- 2b. Various answers, for example:  
 $0.53$  and  $\frac{53}{100}$ ;  $0.65$  and  $\frac{65}{100}$ ;  $0.36$  and  $\frac{36}{100}$
- 3b. Yes, 31 hundredths are greater than 23 hundredths.

### Expected

- 4b. Callum is correct. To show 90 hundredths the decimal needs 9 as the tenths digit and zero as the hundredths digit.
- 5b. Various answers, for example:  
 $0.04$  and  $\frac{4}{100}$ ;  $0.72$  and  $\frac{72}{100}$ ;  $0.47$  and  $\frac{47}{100}$
- 6b. No, 6 tenths and 8 hundredths is less than 8 tenths and 6 hundredths.

### Greater Depth

- 7b. John is correct, 1.51 is one hundredth greater than the fractions, which has 150 hundredths.
- 8b. Various answers, for example:  
 $1.93$  and  $1\frac{93}{100}$ ;  $3.50$  and  $3\frac{50}{100}$ ;  $5.71$  and  $5\frac{71}{100}$
- 9b. Yes. 1.21 is greater than 1.20 and 1.20 is greater than 1.12.