

# Reasoning and Problem Solving

## Step 1: Decimals up to 2d.p.

### National Curriculum Objectives:

Mathematics Year 5: (5F8) [Read, write, order and compare numbers with up to three decimal places](#)

Mathematics Year 5: (5F10) [Solve problems involving number up to three decimal places](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Read each decimal to identify the odd one out. Includes conventional partitioning and images for support.

**Expected** Read each decimal to identify the odd one out. Includes the use of zero as a place holder, some unconventional partitioning and images for support.

**Greater Depth** Read each decimal to identify the odd one out. Includes the use of zero as a place holder, unconventional partitioning and no images for support.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Use clues to identify a number. Includes conventional partitioning and one possible answer.

**Expected** Use clues to identify a number. Includes some unconventional partitioning and several possible answers.

**Greater Depth** Use several clues to identify a number. Includes unconventional partitioning and several possible answers.

Questions 3, 6 and 9 (Reasoning)

**Developing** Explain whether partitioning has been completed correctly. Includes conventional partitioning and images for support.

**Expected** Explain whether partitioning has been completed correctly. Includes the use of zero as a place holder, some unconventional partitioning and images for support.

**Greater Depth** Explain whether partitioning has been completed correctly. Includes the use of zero as a place holder, unconventional partitioning and no images for support.

More [Year 5 Decimals and Percentages](#) resources.

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

# Decimals up to 2d.p.

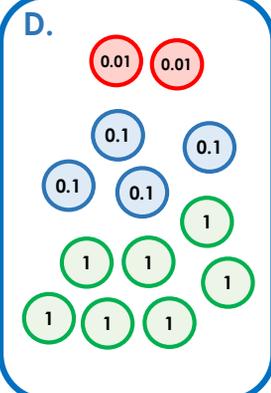
# Decimals up to 2d.p.

1a. Spot the odd one out.

A.  $7 + 0.2 + 0.04$

B. seven ones, two tenths and four hundredths

C.  $7.24$



Explain your answer fully.



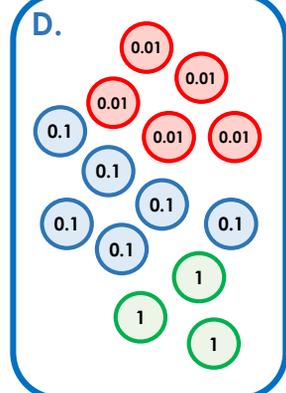
R

1b. Spot the odd one out.

A.  $3 + 0.6 + 0.05$

B. three ones, five tenths and six hundredths

C.  $3.65$



Explain your answer fully.



R

2a. Jack is thinking of a number.



My number lies between  $8 + 0.3 + 0.07$  and  $8 + 0.3 + 0.05$

What number is Jack thinking of?



PS

2b. Martha is thinking of a number.



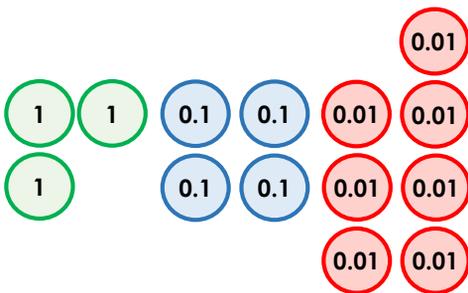
My number lies between  $5 + 0.9 + 0.03$  and  $5 + 0.9 + 0.01$

What number is Martha thinking of?



PS

3a. Matt has used place value counters to partition 4.73.

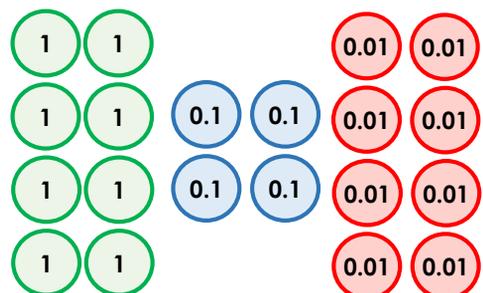


Is he correct? Prove it.



R

3b. Anju has used place value counters to partition 8.84.



Is she correct? Prove it.



R

# Decimals up to 2d.p.

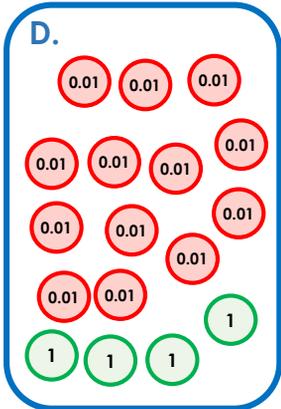
# Decimals up to 2d.p.

4a. Spot the odd one out.

A.  $4 + 1.3$

B. four ones, one tenth and three hundredths

C.  $4.13$



Explain your answer fully.



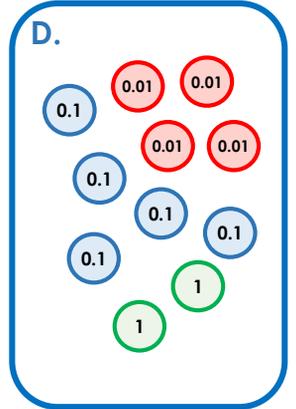
R

4b. Spot the odd one out.

A.  $2 + 0.4 + 0.14$

B. two ones, five tenths and four hundredths

C.  $2.45$



Explain your answer fully.



R

5a. Rob is thinking of a number.



My number lies between  $4 + 0.6 + 0.08$  and  $4 + 0.5 + 0.12$

What number is Rob thinking of? Is there more than one possible answer?



PS

5b. Sunita is thinking of a number.



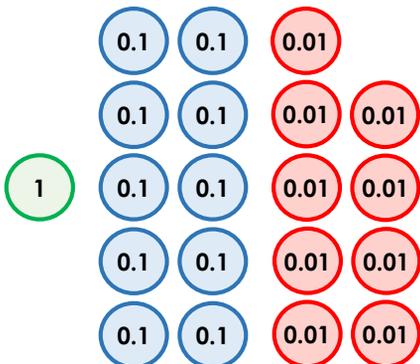
My number lies between  $7 + 0.3 + 0.09$  and  $7 + 0.2 + 0.13$

What number is Sunita thinking of? Is there more than one possible answer?



PS

6a. Pete has used place value counters to partition 2.09.

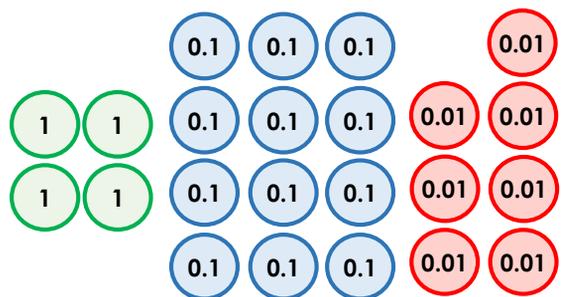


Is he correct? Prove it.



R

6b. Tiana has used place value counters to partition 4.27.



Is she correct? Prove it.



R

## Decimals up to 2d.p.

## Decimals up to 2d.p.

7a. Spot the odd one out.

A.  $60 + 1 + 0.7 + 0.08$

B. 6 tens, 1 one, 7 tenths and 18 hundredths

C.  $50 + 11 + 0.6 + 0.18$

D. 4 tens + 21 ones + 5 tenths + 28 hundredths

Explain your answer fully.



R

7b. Spot the odd one out.

A.  $70 + 17 + 0.28$

B. 6 tens, 27 ones and 28 hundredths

C.  $80 + 7 + 0.2 + 0.08$

D. 8 tens + 5 ones + 12 tenths + 8 hundredths

Explain your answer fully.



R

8a. Jai is thinking of a number.



My number lies between  $6 + 0.7 + 0.14$  and  $6 + 0.4 + 0.27$ . The hundredth is an even number.

What number is Jai thinking of? Is there more than one possible answer?



PS

8b. Tammy is thinking of a number.



My number lies between  $10 + 13 + 0.3 + 0.13$  and  $20 + 3 + 0.1 + 0.16$ . The hundredth is an odd number.

What number is Tammy thinking of? Is there more than one possible answer?



PS

9a. Oscar has attempted to partition 34.82.

two tens + fourteen ones + seven tenths + twenty-two hundredths

Is he correct? Prove it.



R

9b. Melissa has attempted to partition 23.08.

two tens + three hundred and eighty hundredths

Is she correct? Prove it.



R

## Reasoning and Problem Solving Decimals up to 2d.p.

### Developing

- 1a. D is the odd one out as it represents 7.42. The others represent 7.24.  
2a. 8.36  
3a. Matt is incorrect as he has made 3.47 instead of 4.73.

### Expected

- 4a. A is the odd one out as it represents 5.3. The others represent 4.13.  
5a. 4.63, 4.64, 4.65, 4.66 or 4.67  
6a. Pete is correct as 10 tenths is the same as 1.

### Greater Depth

- 7a. B is the odd one out as it represents 61.88. The others represent 61.78.  
8a. 6.68, 6.70, 6.72, 6.74, 6.76, 6.78, 6.80 or 6.82  
9a. Oscar is incorrect as his partitioned number makes 34.92 instead of 34.82

## Reasoning and Problem Solving Decimals up to 2d.p.

### Developing

- 1b. B is the odd one out as it represents 3.56. The others represent 3.65.  
2b. 5.92  
3b. Anju is incorrect as she has made 8.48 instead of 8.84.

### Expected

- 4b. C is the odd one out as it represents 2.45. The others represent 2.54.  
5b. 7.34, 7.35, 7.36, 7.37 or 7.38  
6b. Tiana is incorrect as she has made 5.27 instead of 4.27.

### Greater Depth

- 7b. D is the odd one out as it represents 86.28. The others represent 87.28.  
8b. 23.27, 23.29, 23.31, 23.33, 23.35, 23.37, 23.39 or 23.41  
9b. Melissa is incorrect as her partitioned number makes 23.8 instead of 23.08