

Addition Prior Learning Assessment : Question 7, 8 and 10

LO: I can use a formal written method to add decimal amounts

NC: NFDP 10: solve problems involving number up to three decimal places

NAS 3: use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

NAS4. solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. (mastery)

Teacher Input Ideas:

Set up a shop in the classroom to engage children and to give purpose as to why there is a need to add decimals. Place items in there with different amounts. Ensure to include a variety of prices such as 1, 2, and 3 digit numbers with decimals to 2 places are included. Include price tags with zero used in different places as a place holder. Both the purple and green task sheets contain price tags with a variety of amounts on.

Invite children to select 2 items they would like to purchase and approximate the total. Build on the children's understanding of approximating and encourage children to discuss why approximation is useful when purchasing products.

Encourage the children to suggest how they will work out the total. Some children may suggest mental methods (dependent on the amounts) and some may suggest a formal written method. Encourage children to model to others how they got the answer.

Model adding amounts when a written method is needed. Discuss layout and the purpose of the decimal point. Once children are confident with adding the amounts on the purple tags, provide children with opportunities to add numbers with different amounts of digits. You could encourage the children to select a green priced tag and a purple priced tag.

If children have got an unrealistic answer, encourage them to spot where they have made an error by referring back to their approximation.

If children are finding it tricky to add amounts with different numbers of digits, the children can label their columns to help or use of a place value charts with decimals on may be more beneficial.

$$\begin{array}{r} \text{H T O. ts hs} \\ 121.78 \\ 60.81 \\ \hline 182.59 \\ \hline \end{array}$$

1

Practice Activities

Purple Practice: Most suited for children who would benefit from securing written methods by calculating with the same number of digits when using decimals.

Practical: Children to use the amounts on the items with purple tags in the shop to explore adding different amounts together. The children should be encouraged to approximate what they think the total will be first of two items. Then encourage the children to use a written method to add these amounts together, All purple tags contain amounts with 2 whole numbers and 2 decimal places. When the children feel confident they could purchase 3 different items or be set a challenge of not spending over a certain amount. Additionally once the children are demonstrating confidence with adding purple task amounts, they could select a purple and a green tag so that they have different numbers of digits in the amounts when adding.

Green Practice: Most suited for children who made errors in question 7 of the prior learning assessment.

Practical: this activity is as above, however the children to add items with a mixture of purple and green tags, as this will provide the children with opportunity to add amounts, which include decimals, with different numbers of digits (such as $107.18 + 4.99$). The children will need to ensure that they use their knowledge of place value and align the decimal points when calculating.

Yellow Practice: Most suited for children who made errors in Question 8 of the prior learning assessment.

You may want to introduce this task by encouraging the children to use research to create a mind map of examples as to when 1, 2 and 3 decimal places are needed (for example length, weight, capacity, time etc).

Once the children show understanding of why decimals are used and can use tenths, hundredths and thousandths to explain amounts with up to 3 decimal places, the children can be presented with the yellow task sheet. The children have been given amounts with different numbers of digits and to different numbers of decimal places. Children to add amounts together, deciding if this can be done mentally (such as $0.2 + 0.05$ or whether this needs to be calculated using a written method (such as $100.98 + 1.709$).

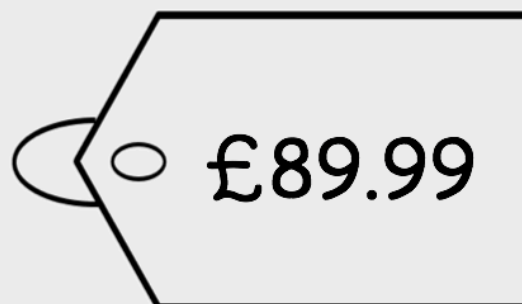
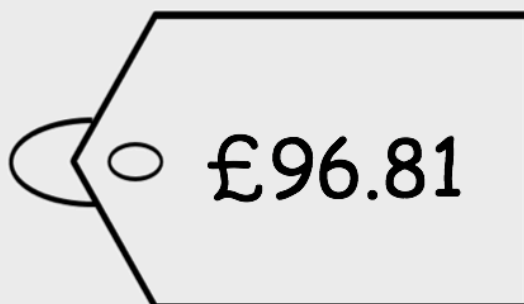
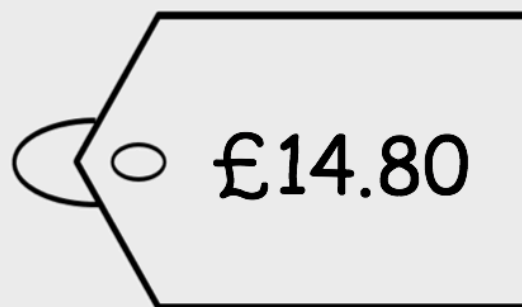
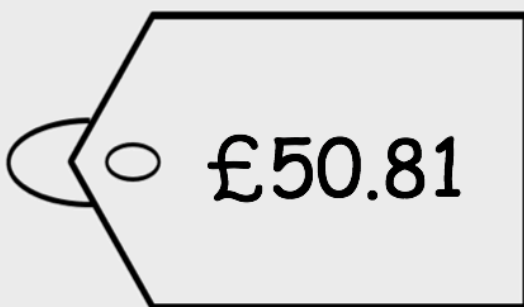
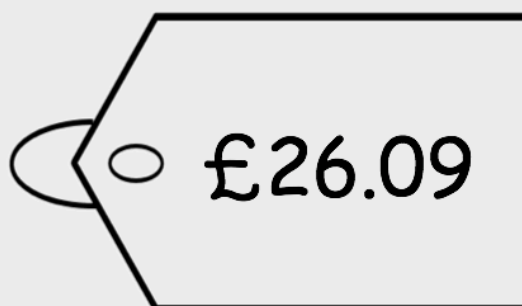
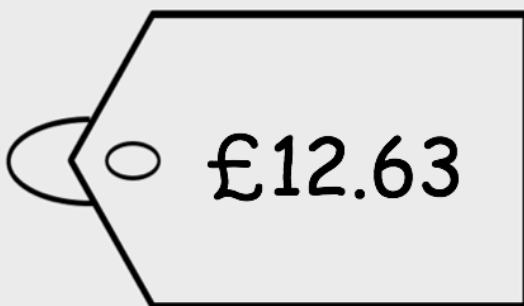
Mastery : Word problems (Q10 of the prior learning assessment).

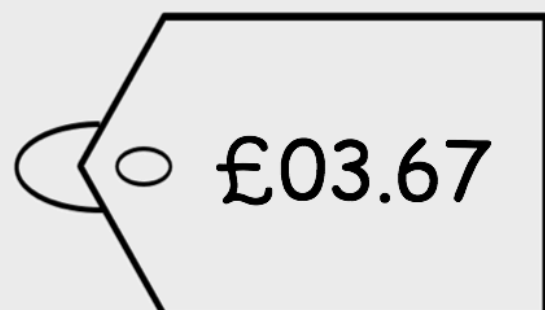
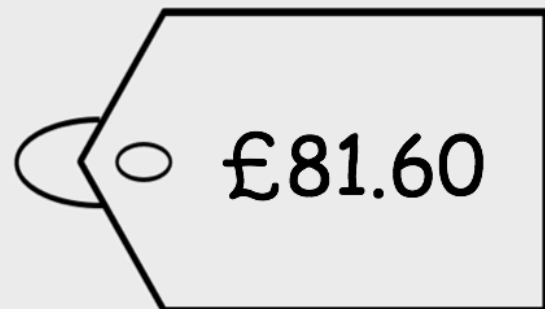
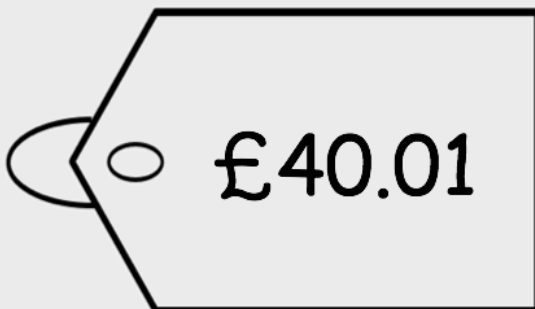
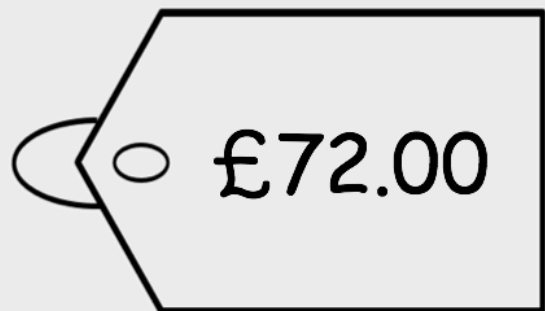
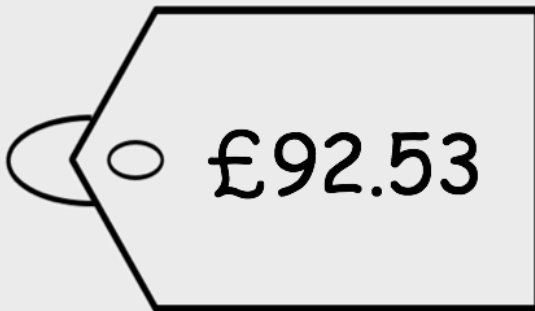
For this mastery task, the children are presented with a variety of addition word problems where the children are to select the calculations they need to perform and appropriate/efficient methods to find the answer. The children are provided with problems that can be calculated mentally, where written methods for whole amounts and decimal amounts can be used and where more than one operation is required.

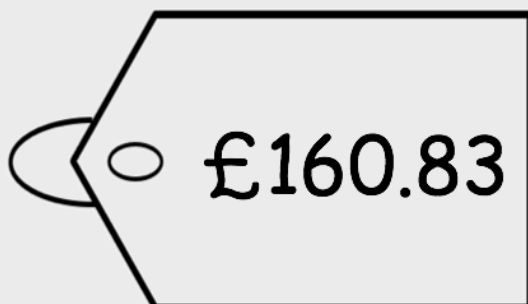
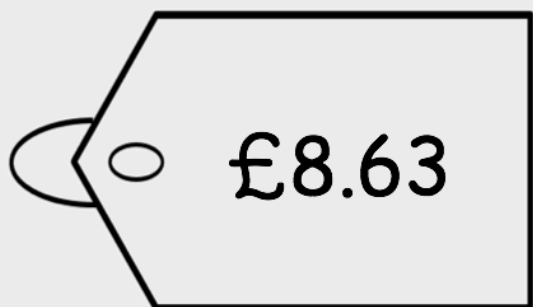
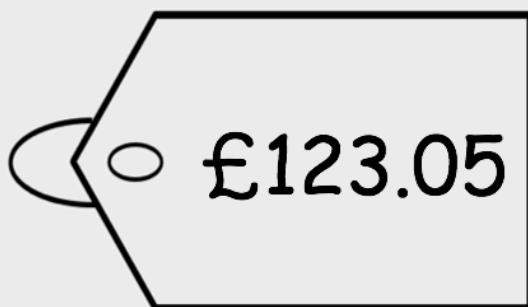
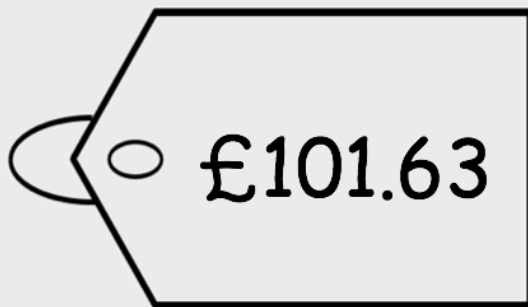
Answers:

Mastery

- 1) 110 (encourage use of mental methods)
- 2) £170.07
- 3) £3.97 (children may choose to do $12.99 + 12.99 + 12.99$ mentally)
- 4) 10581
- 5) £3.70 (some children may spot a short cut here)







Pick two blocks to add together each time.

10.05

6.56

13.3

14.03

8.9

29.40

100.6

153.01

2.2

50.61

20

7

1) Shona had a spelling test every day for 1 week at school. Here are her scores:

Monday: 19

Tuesday: 23

Wednesday: same as Tuesday

Thursday: 24

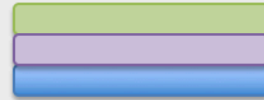
Friday: 21

What was her total score at the end of the week?

2) Ethan bought three train tickets in one week. His first journey cost £3.35, his second journey cost £64.87 and his last journey cost £101.85. How much did he spend altogether?



3) Shay has £35 to spend for his birthday. He wants to buy 3 DVDs that cost £12.99 each. How much more money does he need?



4) A shop had 12983 sports bags in store at the start of December. They sold 8239 in a month. They had 5837 delivered at the start of January. How many bags do they have in stock at the start of January?

5) Sophie buys 4 cupcakes. Nixa buys 2 large cakes for the same price. Each cupcake is £1.85. How much does one large cake cost?

