

Reasoning and Problem Solving

Step 5: Giving Change

National Curriculum Objectives:

Mathematics Year 3:(3M9a) [Add and subtract amounts of money to give change, using both £ and p in practical contexts](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain which answer is correct when calculating change when purchasing one item. Pictorial support used alongside values. Where scaffolding for the answer is provided.

Expected Explain which answer is correct when calculating change when purchasing one item.

Greater Depth Explain which answer is correct when calculating change when purchasing 2 items and including conversions from pounds to pence within a question. No scaffolding provided.

Questions 2, 5 and 8 (Problem Solving)

Developing Calculate the cost of an item from the amount paid and the change given, when purchasing one item. Pictorial support used alongside values. Where scaffolding for the answer is provided.

Expected Calculate the cost of an item from the amount paid and the change given, when purchasing one item with partly completed number lines.

Greater Depth Calculate the cost of an item from the amount paid and the change given, when purchasing 2 items and including conversions from pounds to pence within a question. No scaffolding provided.

Questions 3, 6 and 9 (Problem Solving)

Developing Give three possible combinations for the coins that could be given as change when purchasing one item. Pictorial support used alongside values. Where scaffolding for the answer is provided.

Expected Give three possible combinations for the coins that could be given as change when purchasing one item with partly completed bar models.

Greater Depth Give three possible combinations for the coins that could be given as change when purchasing two items including conversions from pounds to pence within a question. No scaffolding provided.

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Giving Change

1a. Josh buys a bar of chocolate that costs £1 and 65p. He gives the shop keeper a £2 coin.

A.



The change will be 45p.

B.



The change will be 35p.



Which is correct? Prove it.

R

Giving Change

1b. Noah buys a ball that costs £3 and 90p. He gives the shop keeper a £5 note.

A.



The change will be £1 and 10p.

B.



The change will be £2 and 10p.



Which is correct? Prove it.

R

2a. Marcus bought a toy spaceship. He paid with a £5 note. Below is the change he received. How much did the spaceship cost? Show your working.



£ ___ and ___ p



20p

___ p

£ ___ and ___ p

£ ___ and ___ p

£ ___



PS

2b. Sophie bought a ball. She paid with a £10 note. She got £1 and 30p change. How much did the ball cost? Show your working.



£ ___ and ___ p



£1

___ p

£ ___ and ___ p

£ ___ and ___ p

£ ___



PS

3a. Amelia bought some biscuits. She paid with a £5 note. Which coins might she get in her change? Give 3 possible answers.



PS

3b. Lily bought a bottle of pop. She paid with a £2 coin. Which coins might she get in her change? Give 3 possible answers.



PS

Giving Change

4a. Billy buys a comic which costs £1 and 64p. He gives the shop keeper a £5 note.

A. The change will be:



B. The change will be:



Which is correct? Prove it.

R

A. The change will be:



B. The change will be:



Which is correct? Prove it.

R

5a. Sam bought a bear. He paid with a £10 note. In his change he got one note, two £1 coins and three of the same silver coins.



£10

How much could the bear cost? Show your working.



?



PS

5b. Kim bought a set of paints. She paid with a £5 note. In her change she got four different coins.



£5

How much could the set of paints cost? Show your working.



?



PS

6a. Max bought a sandwich. He paid with a £5 note. Which coins might he get in his change? Give 3 possible answers.



£2 and 55p

£5

£2 and 55p

?



PS

6b. Lauren bought a multipack of crisps. She paid with a £10 note. Which coins might she get in her change? Give 3 possible answers.



£3 and 80p

£10

£3 and 80p

?



PS

Giving Change

7a. A packet of crisps costs 147p. Jed buys 2 packets. He gives the shop keeper a £5 note.

A.

The change will be 206p.

B.

The change will be two £1 coins and four 1p coins.



Which is correct? Prove it.

R

Giving Change

7b. A lolly costs 107p. George buys 2 lollies. He gives the shop keeper a £5 note.

A.

The change will be one £2 coin, two 5p coin and four 1p coins.

B.

The change will be 286p.



Which is correct? Prove it.

R

8a. Charlotte bought a jigsaw and a yoyo. She paid with a £10 note. In her change she got a £2 coin, three different silver coins and one bronze coin.



?

255p

How much could the jigsaw cost?
Show your working.



PS

8b. Kate bought a boat and a bucket and spade. She paid with a £20 note. In her change she got one note, a £1 coin, two of the same silver coins and four bronze coins.



?

582p

How much could the boat cost?
Show your working.



PS

9a. Jack bought a sandwich and a can of pop. He paid with a £10 note. Which coins might he get in his change? Give 3 possible answers.



124p

£3 and 5p



PS

9b. Amy bought a packet of crisps and a bottle of water. She paid with a £10 note. Which coins might she get in her change? Give 3 possible answers.



£2 and 80p

145p



PS

Reasoning and Problem Solving

Giving Change

Developing

1a. B is correct because $\pounds 2 - \pounds 1$ and $65\text{p} = 35\text{p}$ change. Children may prove their answer in a variety of ways.

2a. $\pounds 4$ and 75p . Children may show their calculations in a variety of ways e.g. they may count forwards on a number line.

3a. Various answers, for example: $\pounds 1 + 20\text{p} + 5\text{p} = \pounds 1$ and 25p .

Expected

4a. A is correct because $\pounds 5 - \pounds 1$ and $64\text{p} = \pounds 3$ and 36p change. Children may prove their answer in a variety of ways.

5a. Various answers, for example: The change could total $\pounds 8$ and 50p , $\pounds 7$ and 60p , $\pounds 7$ and 30p , $\pounds 7$ and 15p . The bear could cost $\pounds 1$ and 50p , $\pounds 2$ and 40p , $\pounds 2$ and 70p , $\pounds 2$ and 85p . The children may show their calculations in a variety of ways e.g. they may count back from $\pounds 10$ jumping for each note and coin.

6a. Various answers, for example: $\pounds 1 + \pounds 1 + 20\text{p} + 20\text{p} + 5\text{p} = \pounds 2$ and 45p .

Greater Depth

7a. A is correct because two packets of crisps costs $\pounds 2$ and 94p . $\pounds 5 - \pounds 2$ and $94\text{p} = \pounds 2$ and 6p change. Children may prove their answer in a variety of ways.

8a. Various answers, for example: The change could total $\pounds 2$ and 82p ($\pounds 2$, 50p , 20p , 10p and 2p) so the jigsaw could cost $\pounds 4$ and 63p . The children may show their calculations in a variety of ways e.g. adding $\pounds 2$ and 55p and $\pounds 2$ and 82p and then counting on from $\pounds 5$ and 37p to $\pounds 10$ to find the possible cost of the jigsaw.

9a. Various answers, for example: $\pounds 2 + \pounds 2 + \pounds 1 + 50\text{p} + 20\text{p} + 1\text{p} = \pounds 5$ and 71p .

Reasoning and Problem Solving

Giving Change

Developing

1b. A is correct because $\pounds 5 - \pounds 3$ and $90\text{p} = \pounds 1$ and 10p change. Children may prove their answer in a variety of ways.

2b. $\pounds 8$ and 70p . Children may show their calculations in a variety of ways e.g. they may count forwards on a number line.

3b. Various answers, for example: $20\text{p} + 20\text{p} + 5\text{p} = 45\text{p}$.

Expected

4b. B is correct because $\pounds 5 - \pounds 1$ and $23\text{p} = \pounds 3$ and 77p change. Children may prove their answer in a variety of ways.

5b. Various answers, for example: The change could total $\pounds 1$ and 26p , $\pounds 1$ and 27p , $\pounds 1$ and 35p , $\pounds 1$ and 75p , $\pounds 3$ and 25p . The paints could cost $\pounds 3$ and 74p , $\pounds 3$ and 73p , $\pounds 3$ and 65p , $\pounds 3$ and 25p , $\pounds 1$ and 75p . The children may show their calculations in a variety of ways e.g. they may count back from $\pounds 5$ jumping for each coin in the change.

6b. Various answers, for example: $\pounds 5 + \pounds 1 + 10\text{p} + 5\text{p} + 5\text{p} = \pounds 6$ and 20p .

Greater Depth

7b. B is correct because two lollies cost $\pounds 2$ and 14p . $\pounds 5 - \pounds 2$ and $14\text{p} = \pounds 2$ and 86p change. Children may prove their answer in a variety of ways.

8b. Various answers, for example: The change could total $\pounds 6$ and 24p ($\pounds 5$, $\pounds 1$, two 10p coins and four 1p coins) so the boat would cost $\pounds 7$ and 94p . The children may show their calculations in a variety of ways e.g. adding $\pounds 5$ and 82p and $\pounds 6$ and 24p and then counting on from $\pounds 12$ and 6p to $\pounds 20$.

9b. Various answers, for example: $\pounds 2 + \pounds 2 + \pounds 1 + 20\text{p} + 20\text{p} + 20\text{p} + 10\text{p} + 5\text{p} = \pounds 5$ and 75p .