

Reasoning and Problem Solving

Step 4: Four Operations

National Curriculum Objectives:

Mathematics Year 4: (4M9) [Estimate, compare and calculate different measures, including money in pounds and pence](#)

Mathematics Year 4: (4F10b) [Solve simple measure and money problems involving fractions and decimals to two decimal places](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Compare prices and identify best value between individual items and multi-buys (whole numbers and pounds and pence).

Expected Compare prices and identify best value between individual items and multi-buys (using decimals).

Greater Depth Compare prices and identify best value between individual items and different multi-buys (decimal notation for money).

Questions 2, 5 and 8 (Problem Solving)

Developing Identify combinations of amounts to reach a given total (whole numbers and pounds and pence).

Expected Identify combinations of amounts to reach a given total (using decimals).

Greater Depth Identify numerous combinations of amounts to reach a given total (decimal notation for money and a combination of pounds and pence).

Questions 3, 6 and 9 (Problem Solving)

Developing Find change by finding the total of three items and subtracting it from £1 or £10 (whole numbers and pounds and pence).

Expected Find change by finding the total of five or seven items and subtracting it from a whole number (using decimals).

Greater Depth Find change by finding the total of several items and subtracting it from a combination of coins or notes (using decimals and a mixture of pounds and pence and some conversions required).

More [Year 4 Money](#) resources

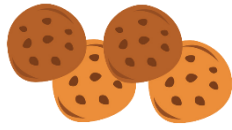
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Four Operations

1a. Sunil loves biscuits.



30p per biscuit



5 pack for £1

He plans to host a tea party, so decides to buy 10 individual biscuits. Do you agree with his decision?

Explain your answer.



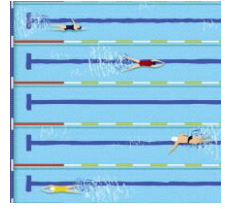
R

Four Operations

1b. Donna loves to swim.



£2 per swim



Weekly multi-pass £10

She plans to go swimming 3 times next week, so decides to buy a weekly multi-pass. Do you agree with her decision?

Explain your answer.



R

2a. At the snack bar, Sonny spent £1 altogether.

Nachos



25p

Crisps



20p

Cola



50p

What could he have bought?



PS

2b. At the toy shop, Marley spent £5 in total.

Jigsaw



£1

Aeroplane



£3

Trumpet



£2

What could he have bought?



PS

3a. Maggie buys two cucumber slices and a carrot stick. She pays £1.

Cucumber Slices



20p

Carrot Sticks



40p

How much change will she receive?



PS

3b. Saif buys two dairy milk bars and a bag of chocolate eggs. He pays with a £10 note.

Dairy Milk



£3

Chocolate Eggs



£2

How much change will he receive?



PS

Four Operations

4a. Martha loves to hold cake parties.



45p per cake

20 for £3.60

5 for £1.20

She plans to buy 25 cakes for her next party, so she decides to buy her cakes in packs of 5. Do you agree with her decision? Explain your answer.



R

Four Operations

4b. Harry loves to watch movies at the cinema.



£5.75 per ticket

Monthly multi-pass £25

Harry plans to go to the cinema 4 times in the next month, so decides to buy a multi-pass. Do you agree with his decision? Explain your answer.



R

5a. At the fruit shop, Daniel spent £2 altogether.

Pear

Pineapple

Grapes

Melon



£0.25

£1.25

£0.40

£0.75

What could he have bought?



PS

5b. At the toy shop, Maddison spent £4 in total.

Yoyo

Rubber Duck

Train

Teddy



£0.24

£0.40

£1.20

£2.40

What could she have bought?



PS

6a. Elodie buys three candy canes and two lollipops. She pays with a £5 note.

Candy Cane

Lollipop



£0.30

£0.40

How much change will she receive?



PS

6b. Rupert buys five pencils and two pens. He pays £6.

Pencil

Pen



£0.25

£1.25

How much change will he receive?



PS

Four Operations

7a. Henry and Penny love hosting parties.

50 balloons in a pack. £3.99



100 balloons in a pack. £6.99

20 balloons in a pack. £1.99
BUY 1 GET 1 FREE

They need 150 balloons for their next party. Penny thinks she will save £2 by buying the balloons in packs of 50. Do you agree? Explain your answer.



R

Four Operations

7b. Sarah and Bobby like to exercise at the gym.

Weekdays
£4.55 per class



Weekends
£5.45 per class

Weekly Multi-pass
£12.50

Sarah goes to the gym each Monday, Wednesday and Saturday. Bobby goes each Monday, Tuesday and Friday. Sarah says she will save £2.05 more than Bobby if they both get a multi-pass. Do you agree? Explain your answer.



R

8a. Look at the amounts below.

£16.92	£19.57	£17.71	£10.04
115p	£14.38	£16.25	£4.61
79p	£3.39	308p	£9.96
£3.75	43p	£8.85	562p

How many different combinations make £20?



PS

8b. Look at the amounts below.

£9.23	£12.56	£19.99	£8.01
£10.01	£23.76	£24.57	£24.47
553p	£20.77	624p	£5.43
£14.22	£10.11	57p	£21.99

How many different combinations make £30?



PS

9a. John buys seven apples and twelve oranges. He pays with four £2 coins.

Apples

Oranges



£0.45

25p

How much change will he receive?



PS

9b. Adelina buys three doll sized hats and four pairs of doll sized gloves. She pays with two £5 notes.

Hats

Gloves



£1.20

£0.85

How much change will she receive?



PS

Reasoning and Problem Solving Four Operations

Developing

1a. No. Sunil should buy the biscuits in packs of 5. $2 \times £1 = £2$ compared to $10 \times 30p = £3.00$.

2a. Various possible answers, including: 2 cola; 4 nachos; 5 crisps; or 2 nachos + 1 cola.

3a. 20p

Expected

4a. No. Martha should buy a pack of 20 and a pack of 5 which would cost £4.80. Buying in packs of 5 would cost £6.00 and buying them individually would cost £11.25.

5a. Various possible answers, including:

Pear	Pineapple	Grapes	Melon	Total
2	0	0	2	£2
0	1	0	1	£2
3	1	0	0	£2

6a. £3.30

Greater Depth

7a. No. Penny should buy the balloons on the buy one get one free offer. This would cost her £7.96 compared to £11.97 by buying in packs of 3, or buying a 100 pack and a 50 pack which would cost £10.98.

8a. Various possible answers, including:

562p	£14.38	£20
£19.57	43p	£20
£3.75	£16.25	£20
308p	£16.92	£20

9a. £1.85

Reasoning and Problem Solving Four Operations

Developing

1b. No. Donna should pay for each swimming session. $3 \times £2 = £6$ compared to the £10 for the weekly pass.

2b. Various possible answers, including: 5 jigsaws; 1 aeroplane + 2 jigsaws; 1 aeroplane + 1 trumpet.

3b. £2

Expected

4b. No. Harry should pay for each cinema visit. $4 \times £5.75 = £23$ compared to the £25 for the monthly pass.

5b. Various possible answers, including:

Yoyo	Rubber Duck	Train	Teddy	Total
10	1	1	0	£4
0	10	0	0	£4
15	1	0	0	£4

6b. £2.25

Greater Depth

7b. No. Sarah attends a weekend class, which is 90p more expensive than a weekday class. Bobby doesn't attend a weekend class. Sarah will save 90p more than Bobby, not £2.05.

8b. Various possible answers, including:

£9.23	£20.77	£30
£23.76	624p	£30
£19.99	£10.01	£30

9b. £3