

WA6MNACN3

Calculating with number

Core + Challenge

Adding and Subtracting Decimals — Marking Key

I can add and subtract decimals to two decimal places using columns, grids and number lines.

For tutors and parents. Award method marks for correct working even if the final answer is wrong.

Marks summary

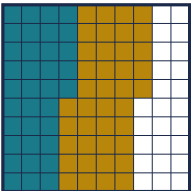
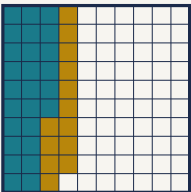
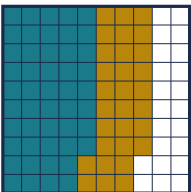
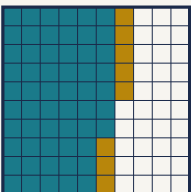
A Warm up: 16 B Practise: 21 C Think it through: 10 D Challenge: 9 **Total: 56**

Gold shading in this key shows what the child should have shaded or drawn. Accept any correct arrangement unless the question fixes it.

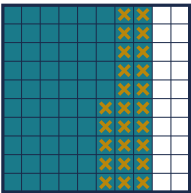
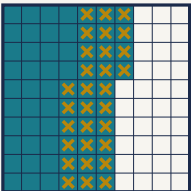
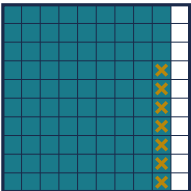
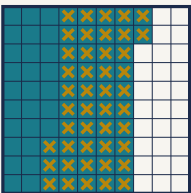
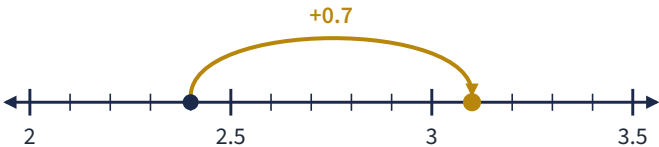
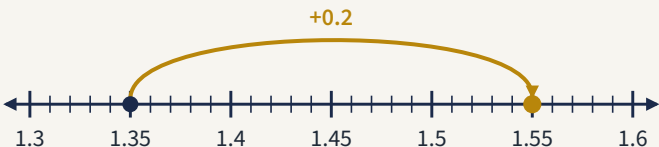
A

Warm up *answers*

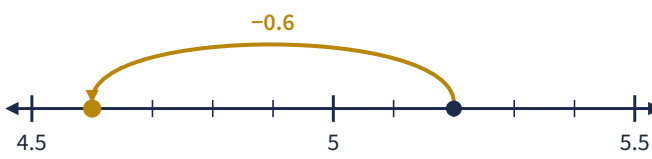
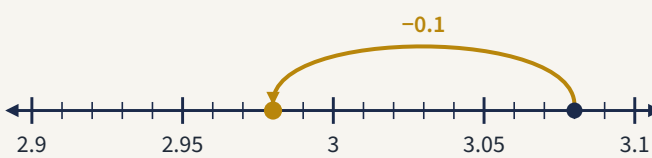
/ 16 marks

Q	Answer	Model answer / notes	Marks
1	0.75	 $35 + 40 = 75$ hundredths.	1
2	0.39	 $26 + 13 = 39$ hundredths.	1
3	0.78	 $48 + 30 = 78$ hundredths.	1
4	0.65	 $57 + 8 = 65$ hundredths.	1

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Q	Answer	Model answer / notes	Marks
5	0.55	 $80 - 25 = 55$ hundredths.	1
6	0.34	 $64 - 30 = 34$ hundredths.	1
7	0.83	 $90 - 7 = 83$ hundredths.	1
8	0.27	 $72 - 45 = 27$ hundredths.	1
9	6.9	$4 + 2 = 6$ and $0.6 + 0.3 = 0.9$.	1
10	4.15	$7.25 - 3 = 4.25$, then $- 0.1 = 4.15$.	1
11	6.25	$5.8 + 0.2 = 6$, then $+ 0.25 = 6.25$.	1
12	6.36	$10 = 10.00$. Count up: $3.64 \rightarrow 4$ is 0.36 , $4 \rightarrow 10$ is 6 . 6.36 .	1
13	3.1	 $2.4 + 0.6 = 3$, then $+ 0.1$ more = 3.1.	1
14	1.55	 2 tenths more: $1.35 \rightarrow 1.45 \rightarrow 1.55$.	1

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Q	Answer	Model answer / notes	Marks
15	4.6	 5.2 - 0.2 = 5, then - 0.4 = 4.6.	1
16	2.98	 3.08 - 0.08 = 3, then - 0.02 = 2.98.	1

B Practise *answers and working*

/ 21 marks

Q	Answer	Working / sample response	Marks
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1 4.35 km

	o	t	h
	2	7	5
+	1	6	0
	4	3	5

2

Line up the points: 2.75 + 1.60.
 5 + 0 = 5 hundredths; 7 + 6 = 13 tenths (write 3, carry 1); 2 + 1 + 1 = 4.
 Answer 4.35 km.

1 mark: digits placed in the correct columns (1.6 with 6 in the tenths).
1 mark: 4.35 km.

2 Total \$10.85, change \$9.15

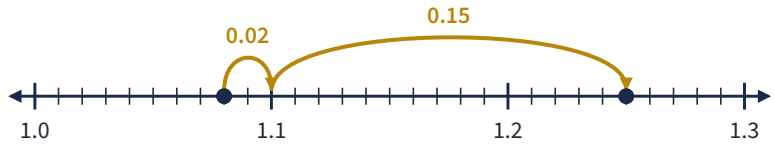
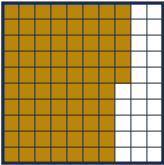
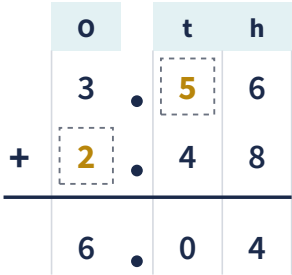
Item	Price
Bread	\$3.85
Milk	\$2.40
Apples	\$4.60
Total	\$10.85
Change from \$20	\$9.15

3

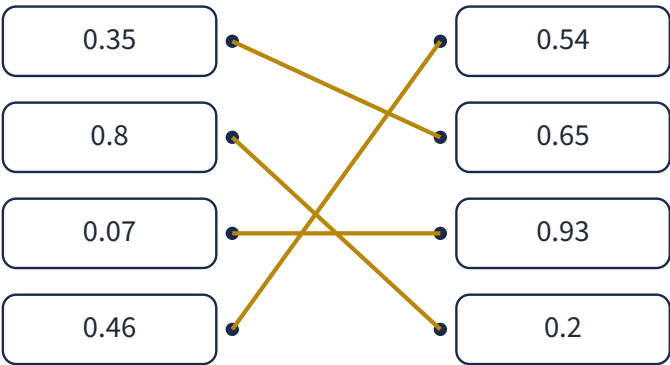
3.85 + 2.40 = 6.25; 6.25 + 4.60 = 10.85.
 Count up from \$10.85: 15c to \$11, then \$9 to \$20. Change = \$9.15.

2 marks: total \$10.85 (1 mark for a correct method with one slip).
1 mark: change \$9.15 (follow through from their total).

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Q	Answer	Working / sample response	Marks
3	0.17 m	 From 1.08 to 1.1 is 0.02. From 1.1 to 1.25 is 0.15. $0.02 + 0.15 = 0.17$ m (17 cm). <i>1 mark: jumps shown on the line.</i> <i>1 mark: 0.17 m (accept 17 cm).</i>	2
4	a) 21.75 mm b) 3.65 mm	a) $12.40 + 8.75 + 0.60 = 21.75$ mm. b) $12.40 - 8.75$: count up $8.75 \rightarrow 9$ (0.25) $\rightarrow 12.4$ (3.4). $0.25 + 3.4 = 3.65$ mm. <i>1 mark: 21.75 mm.</i> <i>1 mark: 3.65 mm.</i>	2
5	0.25	 $0.35 + 0.4 = 0.35 + 0.40 = 0.75$ planted (75 squares). $1 - 0.75 = 0.25$ not planted. <i>1 mark: 75 squares shaded.</i> <i>1 mark: 0.25.</i>	2
6	\$16.10	 $\\$12.50 - \\$3.20 = \\$9.30$. $\\$9.30 - \\$3.20 = \\$6.10$. $\\$6.10 + \\$10 = \\$16.10$. <i>1 mark for each correct box.</i>	3
7	$3.56 + 2.48 = 6.04$	 Hundredths: $6 + 8 = 14$, write 4, carry 1 tenth. Tenths: $? + 4 + 1$ must end in 0, so $? = 5$ (10 tenths, carry 1). Ones: $3 + ? + 1 = 6$, so $? = 2$. <i>1 mark: 5 in the tenths.</i> <i>1 mark: 2 in the ones.</i>	2

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Q	Answer	Working / sample response	Marks
8	See lines	 $0.35 + 0.65 = 1$ $0.8 + 0.2 = 1$ $0.07 + 0.93 = 1$ $0.46 + 0.54 = 1$ <i>2 marks: all four correct. 1 mark: two or three correct.</i>	2
9	a) 56.01 s b) 0.46 s	a) $14.26 + 13.90 = 28.16$; $14.05 + 13.80 = 27.85$; $28.16 + 27.85 = 56.01$ s. b) Slowest 14.26 s, fastest 13.8 s: $14.26 - 13.80 = 0.46$ s. <i>2 marks: 56.01 s (1 mark for a correct method with one slip). 1 mark: 0.46 s.</i>	3

C

Think it through *sample answers and criteria*

/ 10 marks

Q	Answer	Working / sample response	Marks
1	No; 6.86	Tom lined up the last digits instead of the decimal points, so he treated 4.5 as 0.45. $4.50 + 2.36 = 6.86$. (Estimate: about $4 + 2 = 6$, so 2.81 is far too small.) <i>1 mark: explains the decimal points (or place values) were not lined up. 1 mark: 6.86.</i>	2
2	False; 5.65	Check by adding: $6.35 + 2.35 = 8.70$, not 8. Count up: $2.35 \rightarrow 3$ is 0.65, $3 \rightarrow 8$ is 5. $5 + 0.65 = 5.65$. <i>1 mark: False. 1 mark: correct answer 5.65 or a check that shows it is wrong.</i>	2
3	Sometimes	☐ Always ☒ Sometimes ☐ Never $0.25 + 0.31 = 0.56$ has two decimal places. $0.25 + 0.75 = 1$ (or $0.15 + 0.25 = 0.4$), so it is not always true. <i>1 mark: Sometimes. 1 mark: one example each way.</i>	2
4	$2.6 - 0.45$	$3.5 - 1.25 = 2.25$; $1.9 + 0.35 = 2.25$; $4 - 1.75 = 2.25$. $2.6 - 0.45 = 2.15$, the only one that is not 2.25. <i>1 mark: $2.6 - 0.45$. 1 mark: shows the others all equal 2.25.</i>	2

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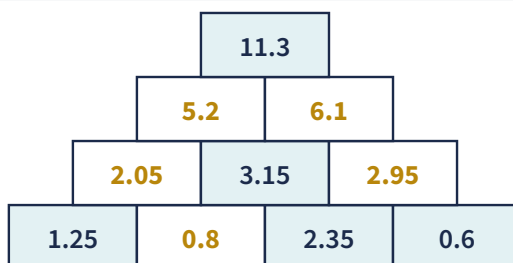
Q	Answer	Working / sample response	Marks
5	9.43; 9.26	6.98 is 0.02 less than 7. Adding 7 adds 0.02 too much, so she takes 0.02 away: $9.45 - 0.02 = 9.43$. $5.99 + 3.27 = 6 + 3.27 - 0.01 = 9.27 - 0.01 = 9.26$. <i>1 mark: explains rounding to 7 then adjusting.</i> <i>1 mark: 9.26.</i>	2

D

Challenge *solutions and criteria*

/ 9 marks

Q	Answer	Working / sample response	Marks
1	a) 6 pairs b) Burrito + Juice, 35c	Sandwich + Sushi = \$8.25, Sandwich + Juice = \$7.75, Sushi + Pasta = \$8.70, Sushi + Juice = \$6.40, Pasta + Juice = \$8.20, Burrito + Juice = \$9.65. The other four pairs cost more than \$10. b) \$9.65 is closest to \$10: $10 - 9.65 = 0.35$. <i>2 marks: all six pairs and no extras (1 mark for four or five).</i> <i>1 mark: Burrito and Juice, 35c change.</i>	3
2	\$34.15	Work backwards and do the opposite of each step. $18.40 + 8.90 = 27.30$ (undo Woolies). $27.30 - 5.50 = 21.80$ (undo gran). $21.80 + 12.35 = 34.15$ (undo Kmart). <i>1 mark: works backwards with inverse operations.</i> <i>1 mark: one correct intermediate amount.</i> <i>1 mark: \$34.15.</i>	3



3 See pyramid

3

Bottom: $3.15 - 2.35 = 0.8$.

Second row: $1.25 + 0.8 = 2.05$ and $2.35 + 0.6 = 2.95$.

Third row: $2.05 + 3.15 = 5.2$ and $3.15 + 2.95 = 6.1$. Check: $5.2 + 6.1 = 11.3$.

1 mark: 0.8.
1 mark: 2.05 and 2.95.
1 mark: 5.2 and 6.1.