

GRADE 6 · THE NUMBER SYSTEM · ANSWER KEY

ADDING & SUBTRACTING DECIMALS

Today's goal: I can fluently add multi-digit decimals using the standard algorithm and fluently subtract multi-digit decimals using the standard algorithm.



How to use this key. Problem numbers match the student sheets. Each answer shows the steps and the slip Mr DJ sees most, so a wrong answer tells you what to reteach. Pepper levels: **Mild** warm-up, **Medium** stretch, **Spicy** challenge, **Extra** big brain.

Practice

8 problems + Mr DJ's worked example

Use: During the lesson after the mini-lesson/deck. Every item is deliberately ragged (different decimal lengths) because aligned-length problems hide the misconception. **Timing:** 15–25 min · pairs or independent · circulate on 7–9. Items 1–3 fluency, 4–6 application, 7–9 reasoning. Item 8 is the 5.6-vs-5.06 place-value check.

1 9.65 **2** 17.78 **3** 61.36 **4** 15.825 **5** 7.644 **6** 46.75 m **7** \$23.51 **8** No — it is 0.54

1 **MILD** 6.2 + 3.45?

9.65

1. $6.20 + 3.45 = 9.65$.

Watch for: Right-aligned → 6.2 + 3.45 read as 9.47 or similar.

2 **MILD** 15.08 + 2.7?

17.78

1. $15.08 + 2.70 = 17.78$.

Watch for: Added 2.7 into the hundredths column → 15.15.

3 **MEDIUM** 100 – 38.64?

61.36

1. Write 100 as 100.00.

2. $100.00 - 38.64 = 61.36$. Check: $38.64 + 61.36 = 100.00$.

Watch for: Borrowing across the zeros is the hard part; or lined 100 up against the cents.

4 **MEDIUM** 2.05 + 13.4 + 0.375?

15.825

1. Pad to three places: $2.050 + 13.400 + 0.375$.

2. = 15.825.

Watch for: Mixed place values because the three numbers have different lengths — pad with zeros first.

5 **MEDIUM** 8.4 – 0.756?

7.644

1. $8.400 - 0.756 = 7.644$.

Watch for: Stopped at $8.4 - 0.7$ or misaligned the thousandths.

6 **SPICY** 14.6 + 9.85 + 22.3 m?

46.75 m

1. Pad: $14.60 + 9.85 + 22.30$.

2. Total 46.75 m.

Watch for: Ragged-decimal misalignment across three addends — the most common multi-addend error.

7 **SPICY** \$50 – (\$18.99 + \$7.50)?

\$23.51

1. Spent: $18.99 + 7.50 = 26.49$.

2. $50.00 - 26.49 = 23.51$.

Watch for: Subtracted one purchase at a time but lost the decimal on the second step, or wrote 50 instead of 50.00.

8 **EXTRA SPICY** Ava: $5.6 - 5.06 = 0$?

No — it is 0.54

1. Write 5.6 as 5.60.

2. $5.60 - 5.06 = 0.54$.

3. 5.6 and 5.06 are NOT the same: $5.6 = 5.60$, which is larger than 5.06.

Watch for: Read 5.6 and 5.06 as equal because 'the digits are the same.' Place value, not digits, decides the value.

Homework

7 problems + Mr DJ's worked example

Use: Parallels the practice sheet one-to-one. Item 6's answer keeps a 0 in the tenths place — worth naming. **Timing:** ~15 min at home · independent · review item 7 as the next-day warm-up.

1 8.98

2 32.65

3 123.65

4 15.195

5 5.366

6 57.05 km

7 \$7.71

1 **MILD** 7.3 + 1.68?

8.98

1. $7.30 + 1.68 = 8.98$.

Watch for: Right-aligned instead of decimal-aligned.

2 **MILD** 23.05 + 9.6?

32.65

1. $23.05 + 9.60 = 32.65$.

Watch for: Added 9.6 into the hundredths column → 23.11.

3 **MEDIUM** 200 – 76.35?

123.65

1. Write 200 as 200.00.

2. $200.00 - 76.35 = 123.65$. Check: $76.35 + 123.65 = 200.00$.

Watch for: Borrowing across two zeros; or lined 200 up against the cents.

4 **MEDIUM** 3.07 + 11.5 + 0.625?

15.195

1. Pad: $3.070 + 11.500 + 0.625 = 15.195$.

Watch for: Ragged decimals across three addends.

5 **MEDIUM** 6.2 – 0.834?

5.366

1. $6.200 - 0.834 = 5.366$.

Watch for: Misaligned the thousandths.

6 **SPICY** 31.4 + 18.75 + 6.9 km?

57.05 km

1. Pad: $31.40 + 18.75 + 6.90 = 57.05$ km.

Watch for: Multi-addend misalignment; note the answer has a 0 in the tenths place — keep it.

7 **SPICY** \$40 – (\$22.49 + \$9.80)?

\$7.71

1. Spent: $22.49 + 9.80 = 32.29$.

2. $40.00 - 32.29 = 7.71$.

Watch for: Wrote 40 instead of 40.00, or lost the decimal between the two steps.

Exit Ticket

4 problems

Use: End of the decimal add/subtract lesson. 5–8 min, independent. **Timing:** 5–8 min · independent. Every item has a ragged decimal on purpose; item 4 tests the whole-number-as-n.00 move.

1 6.25

2 4.54

3 \$17.73

4 \$6.53 — write 20 as 20.00

1

MILD

3.5 + 2.75?

6.25

1. Line up decimal points; write 3.5 as 3.50.
2. $3.50 + 2.75 = 6.25$.

Watch for: Right-aligned the digits instead of the decimal points (3.5 under .75) → 3.80 or 6.10. Fill with a zero, then add.

2

MEDIUM

12.4 – 7.86?

4.54

1. Write 12.4 as 12.40.
2. $12.40 - 7.86 = 4.54$.

Watch for: Subtracted the smaller digit from the larger in each column (getting 5.46) instead of regrouping.

3

MEDIUM

\$4.75 + \$12.90 + \$0.08?

\$17.73

1. Stack with decimal points aligned: $4.75 + 12.90 + 0.08$.
2. Total 17.73.

Watch for: Misplaced \$0.08 as \$0.80 — the tenths place is empty, so it needs the 0.

4

SPICY

\$20 – \$13.47, and how did you treat 20?

\$6.53 — write 20 as 20.00

1. A whole number has an invisible decimal point: $20 = 20.00$.
2. $20.00 - 13.47 = 6.53$.
3. Check: $13.47 + 6.53 = 20.00$.

Watch for: Lined 20 up against the cents (20 under .47) → wildly wrong answer. Every whole number is really n.00.

Lesson slides

teaching notes & timing

Slide	Time	What to do
1	0:00	Frame the skill: ragged decimals, done right.
2	1:00	Hook — 6.25 vs 3.80. Do NOT resolve. The wrong answer comes from right-aligning; surface it without naming who said it.
3	3:00	The rule and the reason: aligning points means aligning place value. Zeros are placeholders, not new value.
4	5:00	WE1 — resolve the hook. Show the wrong stacking beside the right one so the error is visible, then discard it.
5	7:00	WE2 — whole numbers as n.00. This unlocks every money problem (\$20 change).
6	11:00	The comparison trap: 5.6 vs 5.06. Longer is not bigger. This previews ordering rational numbers.
7		Show the problem and the slip. Pairs: what went wrong, and what is the right answer? Take two answers before moving on.
8		Solve it together, one step at a time. It is also the worked example at the top of the practice sheet, so students can look back at it.
9	9:00	CFU — all-student response. Answer 4.54. Watch for 5.46 (subtracted smaller from larger). Whiteboards: everyone tries Mild, then climbs. These are #1, #3, #6 on the practice sheet.
10		Fingers up: 3 = got it, 2 = almost, 1 = not yet. Pull the 1s for a quick reteach while everyone else starts the practice sheet.
11	13:00	Launch the in-class practice sheet. Launch the practice sheet. Exit ticket in the last 5–8 minutes.