

Grade 2 • Unit 7 • Assessment Guide

Adding and Subtracting within 1,000

For the Parent or Teacher — What to look for

Unit 7 extends place value strategies to numbers within 1,000. The diagnostic is whether the student is using place value flexibly (decomposing as needed) or trying to apply the standard algorithm without understanding it.

Part A — Mental math

- $250+350=600$, $800-400=400$, $470+30=500$, $603-100=503$.
- Watch: do they hesitate on $470+30$ (composing a new hundred)? That's the key skill.
- $603-100$: weak students change other digits; strong ones change only the hundreds digit.

Problem 1 — $462 + 273$ in expanded form

- Answer: 735. Expected work: $(400+60+2) + (200+70+3) = 600 + 130 + 5 = 700 + 30 + 5 = 735$.
- Strong: shows the composition of a hundred from 13 tens.
- Weak: jumps to a standard-algorithm answer without expanded form.

Problem 2 — $532 - 178$ with self-check

- Answer: 354. Yes, decomposes a ten (12 ones needed). Yes, decomposes a hundred (13 tens needed).
- ★ The self-check checkboxes reveal METACOGNITION — does the student know when decomposing is needed?
- Common error: 446 (subtracting smaller from larger column-wise).

Problem 3 — $700 - 198$ by compensation

- Method: $700 - 200 = 500$, then $+2 = 502$.
- ★ Strong: explains the $+2$ adjustment because they subtracted "too much."
- Weak: tries it but gets the adjustment wrong (subtracts 2 instead of adds).

Problem 4 — Two-step library problem ($845 - 268 + 175$)

- Answer: 752 books.
- Watch: handles both operations in the right order. Some students do $845+175-268$ (also gives 752) — fine if reasoned about.
- Weak: only does one step.

Problem 5 — Three-addend sum

- Answer: 367.
- Strong: groups for easy adding ($124+156 = 280$, then $+87 = 367$).
- Weak: adds sequentially with errors at the hundreds-composition step.

Problem 6 — Han's $305 - 127$ mistake

- Wrong. Han subtracted smaller from larger digit-wise (same classic error as Unit 2 problem 7).
- Correct answer: 178.
- Strong: identifies he needs to decompose — borrow from the tens or hundreds.
- ★ If they had this issue in Unit 2 and still have it here, it's a fundamental gap.

Problem 7 — Estimate and check $489 + 312$

- Estimate: $500 + 300 = 800$.
- Exact: 801.
- Strong reflection: "Very close because I rounded 489 UP to 500 (added 11) and 312 to 300 (subtracted 12) — those almost cancelled."

Problem 8 — Story for $600 - 247$

- Should be a subtraction story (take-from, compare, etc.) using numbers around 600 and 247.
- Strong: coherent context (e.g., "There were 600 fans at a game. 247 left at halftime. How many stayed?")

Problem 9 — Always a 3-digit sum?

- NO — two 3-digit numbers can sum to a 4-digit number (e.g., $500+600=1100$).
- ★ Strong: gives a 4-digit counterexample.
- Weak: says "yes" without testing, or says "no" but can't give a counterexample.

Problem 10 — Add up for $503 - 187$

- $187 + 3 = 190$; $+10 = 200$; $+300 = 500$; $+3 = 503$. Total added: 316.
- Strong: clean adding-up sequence, lands on 316.
- ★ Reveals whether they understand subtraction as finding the difference (distance between numbers).

— end —