Grade 4 · Unit 9 · Assessment Guide

Putting It All Together

For the Parent or Teacher — What to look for

Unit 9 is a year-end review. Use this to assess where the student is across the major themes: multi-digit operations, fractions, decimals, measurement, geometry, and multiplicative comparison. The hardest signal is INTEGRATION — applying multiple ideas in one problem (e.g., Pat-vs-Mai pacing combines division and rate reasoning).

Part A — Mixed fluency

- Row 1: 63, 48, 9, 9. Row 2: 3/4, 4/6 (or 2/3), 6/5 (or 1 1/5), 1.1 (or 11/10).
- ★ Watch fraction+decimal row — 3 × 2/5 = 6/5 (not 6/15); 0.7 + 0.4 = 1.1 (not 0.11).
- Weak: 0.7 + 0.4 = 0.11 (treats decimals like whole numbers). 3 × 2/5 = 6/15 (multiplies denominator).

Problem 1 — 47×26, 256÷4, 100,000−47,538

- Answers: 1,222; 64; 52,462.
- ★ The subtraction tests zeros-borrowing from Unit 4. Most diagnostic.
- 47×26: partial products (40×20 + 40×6 + 7×20 + 7×6 = 800 + 240 + 140 + 42 = 1,222).
- Weak: standard algorithms without place-value control.

Problem 2 — Compare fractions

- 3/8 = 9/24, 5/12 = 10/24, so 3/8 < 5/12.
- 7/10 = 70/100 (equal).
- 2/3 ≈ 0.667, 5/8 = 0.625, so 2/3 > 5/8.
- 1 1/4 = 5/4 (equal).
- ★ Strong: uses appropriate strategies (common denom; equivalence).

Problem 3 — 2 1/3 + 1 5/6

- Common denom 6: 2 2/6 + 1 5/6 = 3 7/6 = 4 1/6 yards.
- ★ Strong: clean conversion; properly handles regrouping when 7/6 > 1.
- Weak: adds without common denominator → 6/9; doesn't convert to mixed number.

Problem 4 — 8 × 4 cm → meters

- Red: 32 cm = 0.32 m (or 32/100 m).
- ★ Strong: handles both the comparison AND the unit conversion.
- Weak: 32 cm but writes 0.32 km (wrong unit) or 3.2 m (wrong decimal place).

Problem 5 — Pat (5km/30min) vs Mai (2km/12min)

- Pat: 5/30 = 1/6 km/min. Mai: 2/12 = 1/6 km/min. SAME PACE.
- ★ The SURPRISE — both rates simplify to the same fraction. Strong students compute both rates and notice equality.
- Weak: 'Pat because he ran longer' (confuses distance with speed).

Problem 6 — Right angle split, 28°

- Other: 90 − 28 = 62°.

- Strong: writes 28 + ? = 90.
- Weak: 180 − 28 (treats as straight).

Problem 7 — Quadrilateral with 1 / 4 lines of symmetry

- 1 line: kite, isosceles trapezoid. 4 lines: SQUARE.
- ★ Strong: gets SQUARE for 4 lines.
- Weak: 'rectangle' (only has 2).

Problem 8 — 187 students, 9/van

- 187 ÷ 9 = 20 R 7. Need 21 vans.
- ★ Classic remainder-up.
- Weak: says 20 (leaves 7 stranded).

Problem 9 — Write own multiplicative comparison

- Example: 'Sara has 4 books. Diego has 8 times as many.' Solution: 32.
- Strong: clear story; correctly identifies multiplication as the operation.
- Weak: basic word problem with no comparison.

Problems 10-12 — Reflection

- No right answers — listen for SPECIFICITY.
- Strong: 'I liked equivalent fractions because the area model finally made sense.'
- Weak: 'Math is hard' or 'I want to be smarter.'
- ★ A specific goal ('faster at multi-digit subtraction') beats a vague one.

— end —