

Grade 5 • Unit 8 • Assessment Guide

Putting It All Together

For the Parent or Teacher — What to look for

Unit 8 reviews the major work of Grade 5. Use this to assess where the student is across the year: volume, fraction operations, decimal operations, multi-digit arithmetic, and coordinate-grid thinking. The point is fluency, flexibility, and the ability to apply concepts across topics.

Part A — Mixed fluency

- Row 1: $452 \times 36 = 16,272$. $1026/27 = 38$. $3/4 + 5/6 = 9/12 + 10/12 = 19/12 = 1$ and $7/12$. $2/3 \times 9/8 = 18/24 = 3/4$.
- Row 2: $6.4 + 3.78 = 10.18$. $5 - 2.65 = 2.35$. $0.3 \times 0.4 = 0.12$. $1.2/0.4 = 3$.
- ★ Watch fluency across the whole year. Errors anywhere reveal which units need re-teaching.

Problem 1 — Volume scaling

- Original: $12 \times 8 \times 5 = 480$ cu in.
- Doubled height: $12 \times 8 \times 10 = 960$ cu in.
- Twice as big ($\times 2$).
- ★ Strong: connects doubling one dimension to doubling the volume (Unit 1 idea reinforced).
- Weak: computes both but does not see the ratio.

Problem 2 — Composite figure

- A: $4 \times 5 \times 3 = 60$. B: $4 \times 2 \times 6 = 48$. Total: 108 cu units.
- ★ Strong: adds the two prism volumes correctly. Reveals understanding of additivity.

Problem 3 — 5 and $1/2$ / $(3/4)$ loaves of bread

- 5 and $1/2$ / $(3/4) = 11/2$ / $(3/4) = 11/2 \times 4/3 = 44/6 = 7$ and $1/3$.
- Answer: 7 loaves (the $1/3$ of a loaf leftover is not a whole loaf).
- ★ Strong: recognizes that in a real-world context, you take the FLOOR (only whole loaves count).
- Weak: writes 7 and $1/3$ loaves (ignoring real-world constraint).

Problem 4 — Decimal money problem

- Total: $\$4.75 + \$1.30 + \$0.85 = \6.90 . Change: $\$10 - \$6.90 = \$3.10$.
- Strong: aligns decimals correctly, gets both answers.
- Watch: alignment errors (especially with $\$0.85$).

Problem 5 — Triangle on grid

- A(1,1) and B(7,1): AB is horizontal, length 6 units.
- AC: from (1,1) to (4,6) — horizontal distance 3, vertical 5.
- BC: from (7,1) to (4,6) — horizontal distance 3, vertical 5. SAME as AC.
- Triangle is ISOSCELES ($AC = BC$).
- ★ Strong: notices the symmetry and concludes isosceles WITHOUT measuring with a ruler.
- Weak: just measures with ruler imprecisely.

Problem 6 — $3/8$ as decimal vs 0.4

- $3/8 = 0.375$. $0.4 = 0.400$. 0.4 is BIGGER.
- ★ Strong: writes 0.4 as 0.400 to compare same number of decimal places. 'They look almost the same but 400 thousandths > 375 thousandths.'
- Weak: thinks $3/8 > 0.4$ because ' $8 > 4$ '.

Problem 7 — $4/5 \times 3/4$ prediction

- Less than $4/5$ (because $3/4 < 1$).
- Exact: $4/5 \times 3/4 = 12/20 = 3/5$.
- ★ Strong: predicts before computing; the prediction matches.
- Weak: computes first, then 'predicts' (circular).

Problem 8 — Diego and Sara on $\times 100$ and $\times 0.01$

- Both Diego and Sara are RIGHT.
- ★ The deeper insight: $\times 100$ and $\times 0.01$ are INVERSES (since $100 \times 0.01 = 1$). That's why one moves the decimal right and the other moves it left by the same number of places.
- Strong: explicitly connects the two as inverse operations.
- Weak: says they're both right but cannot say why they're connected.

Problem 9 — Self-generated problem

- Strong: chooses a topic the student feels confident in (volume, fraction ops, etc.). Problem is well-stated, solution is correct, and 'tricky part' is articulate.
- ★ Reveals self-awareness AND mastery.
- Weak: trivial problem; or solution does not match the problem.

Problem 10 — Growth reflection

- No right answer. Honest reflection is the goal.
- Strong: specific ('I can multiply fractions now — at the start I did not know what $2/3 \times 3/4$ even meant.')
- Weak: vague ('I learned a lot.').

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