

Grade 3 • Unit 8 • Assessment Guide

Putting It All Together

For the Parent or Teacher — What to look for

Unit 8 is review and reflection. Use this to assess where the student is across the whole year. Look for fluency, flexible strategies, and the ability to integrate multiple ideas (fractions + measurement, area + multiplication, etc.). Strong end-of-year students show fluent multiplication facts, fluent within-1,000 addition/subtraction, and can move between fractions as numbers and as parts of shapes.

Part A — Mixed fluency

- Row 1: $7 \times 6 = 42$, $8 \times 4 = 32$, $45 \div 5 = 9$, $56 \div 8 = 7$. Should be mostly fluent by year-end (allow strategy notation).
- Row 2: $347 + 268 = 615$, $612 - 285 = 327$, $5 \times 30 = 150$, $9 \times 12 = 108$.
- ★ The 9×12 is a stretch (multiplying by a teen). Strong students decompose: $9 \times 10 + 9 \times 2 = 90 + 18 = 108$.
- Watch: $612 - 285$ requires double regrouping — a Unit 3 target.

Problem 1 — Compare fractions

- (a) $\frac{3}{4} > \frac{3}{8}$ (same numerator, larger denominator = smaller pieces).
- (b) $\frac{5}{6} = \frac{5}{6}$.
- (c) $\frac{2}{3} = \frac{4}{6}$ (equivalent fractions).
- (d) $\frac{4}{4} > \frac{3}{4}$ ($\frac{4}{4} = 1$, more than $\frac{3}{4}$).
- ★ The explanation reveals depth. Strong: uses same-numerator reasoning for (a), equivalence for (c). Weak: just looks at one number.

Problem 2 — Locate $\frac{2}{3}$ on a 0-1 number line

- $\frac{2}{3}$ is two-thirds of the way from 0 to 1.
- Equivalent: $\frac{2}{3} = \frac{4}{6}$.
- ★ This combines Unit 5's number-line work with equivalent fractions.
- Watch: students who place $\frac{2}{3}$ in the middle ($\frac{1}{2}$ location) — confused fraction location.

Problem 3 — 9×4 rectangle: area, perimeter, equivalent area

- Area: 36 sq cm. Perimeter: 26 cm.
- Different rectangle with area 36: 1×36 , 2×18 , 3×12 , 6×6 , 12×3 , etc.
- ★ Strong: gives 6×6 (a square — bonus geometric insight) or 3×12 .
- Reveals understanding that area doesn't fix the shape.

Problem 4 — Tiny house L-shape

- Area = $(8 \times 5) + (4 \times 3) = 40 + 12 = 52$ sq ft.
- ★ Decompose-and-add — same skill as Unit 2 Section C, applied to a context.
- Watch: do they handle the L-shape sketch correctly? Some students draw two separate rectangles not connected.

Problem 5 — Mixed facts and 6×14

- (a) $8 \times 7 = 56$. (b) $72 \div 9 = 8$. (c) $6 \times 14 = 84$ ($= 6 \times 10 + 6 \times 4 = 60 + 24 = 84$).
- ★ The (c) decomposition is the Unit 4 distributive-property skill. Strong: shows the $10 + 4$ split.

- Weak on (c): tries to do 6×14 as repeated addition (slow); OR confuses 6×14 with 6×4 .

Problem 6 — 48 marbles in bags of 6

- 8 bags. Equations: $48 \div 6 = 8$ and $8 \times 6 = 48$ (or $6 \times 8 = 48$).
- ★ Inverse relationship — same as Unit 4. Strong students see and write both equations naturally.
- Watch: $48 \div 6$ might be solved by knowing $8 \times 6 = 48$ (using multiplication facts to do division).

Problem 7 — Two-step cans (348–165+92)

- Estimate: $300 - 200 + 100 = 200$ (close to actual).
- Exact: $348 - 165 = 183$. $183 + 92 = 275$ cans.
- ★ Two-step problem with rounding/estimation — a Unit 3 target.
- Weak: only does one step; OR doesn't check reasonableness; OR estimates poorly (gets 500).

Problem 8 — Maya jogged 3:42 to 4:28

- 46 minutes. Strong: $3:42 + 18 = 4:00$, then $+28 = 4:28$. So $18 + 28 = 46$.
- ★ Time-elapsed problem — combines Unit 6 and addition fluency.
- Watch: $4:28 - 3:42 = 86$ (subtracting digit-wise) is a classic error.

Problem 9 — Write your own problem

- Shows creativity AND self-assessment.
- Strong: a coherent, well-defined problem with the right answer — demonstrates ownership of a topic.
- Weak: vague or impossible problem; answer doesn't match work; or copies a worksheet problem.
- ★ A great signal of confidence and integration.

Problem 10 — Pat: $\times$ and $\div$ are 'the same'

- Pat is PARTIALLY right. Multiplication and division are INVERSE operations — they undo each other and are deeply connected — but they are NOT the same.
- ★ Strong: 'They're related but not the same. $6 \times 4 = 24$ is putting groups together; $24 \div 6 = 4$ is splitting into groups. The numbers move differently.'
- Weak: full agreement (misses the difference) OR full disagreement (misses the inverse relationship).

Problem 11 — What's easier now?

- No right answer. Looking for SPECIFIC reflection on growth.
- Strong: 'I used to count on my fingers for 7×8 , but now I just know it's 56. It helped to learn that $7 \times 8 = 7 \times 4$ doubled.' Specific topic + specific strategy.
- Weak: 'math' or 'numbers' (vague).

Problem 12 — Growth goal

- Honest reflection.
- Strong: specific (e.g., 'I want to get faster at division facts' or 'I still mix up 7×8 and 6×9 ').
- Weak: 'nothing' or 'I want to be good at math.'